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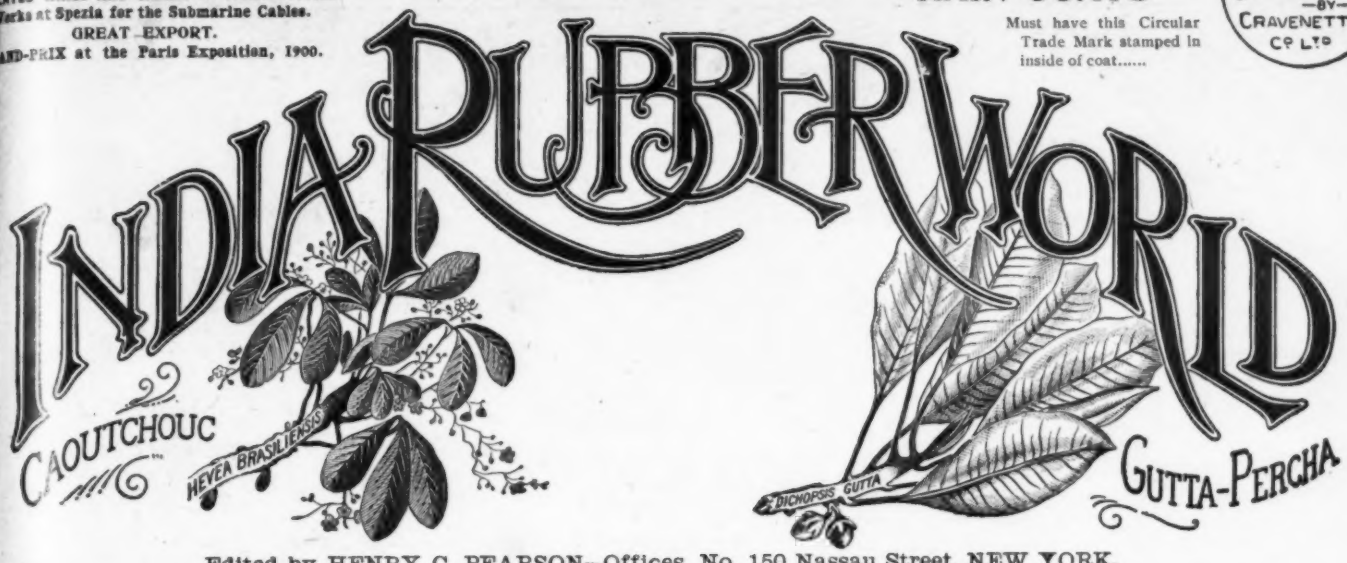

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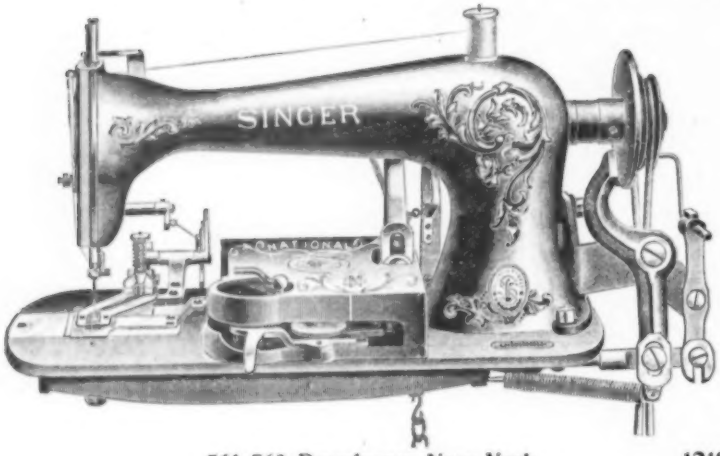

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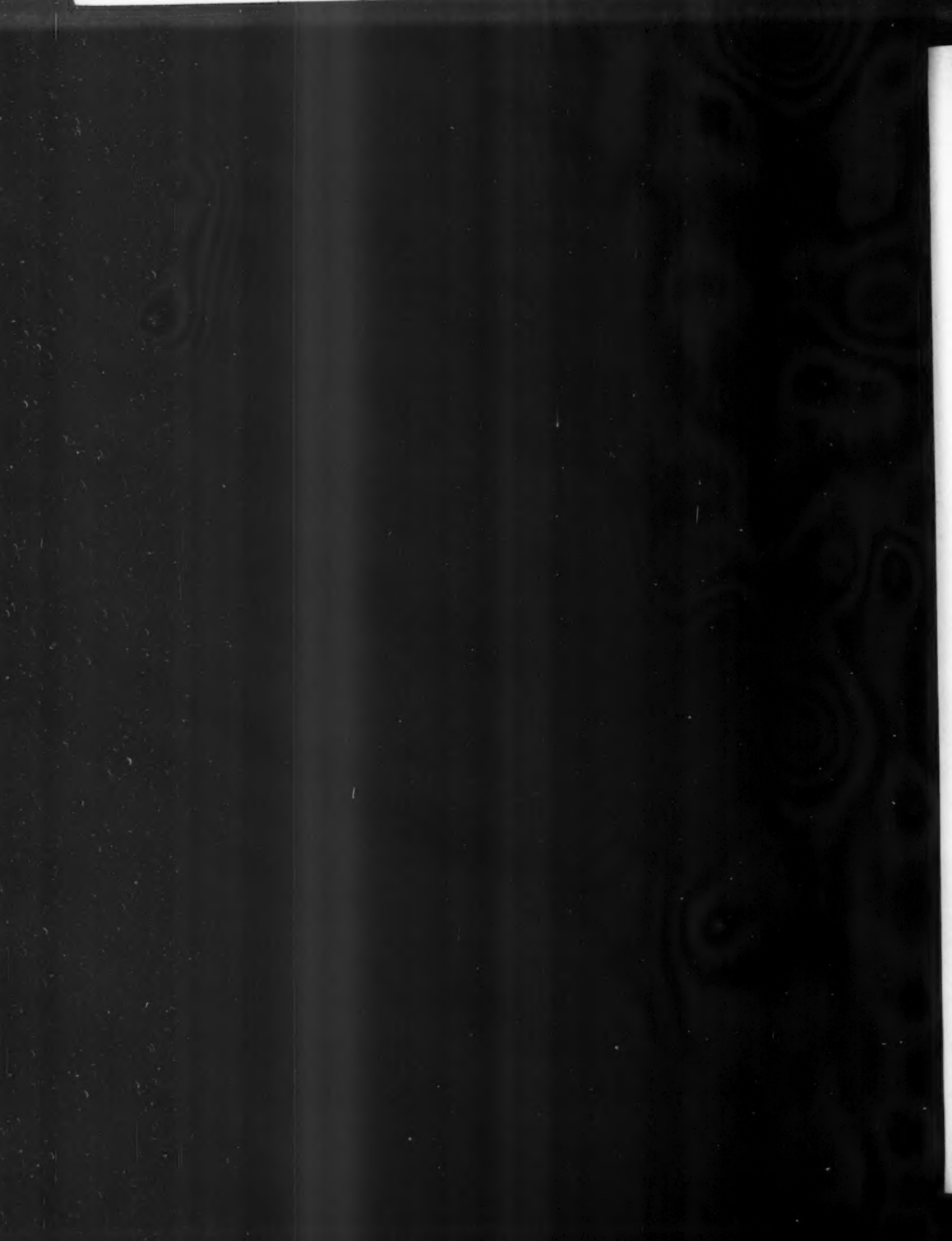

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THE CRUDE RUBBER SUPPLY.

THERE is no real scarcity of rubber. Vast supplies exist in forests which have never yet been "worked," and there is rubber in warehouses in many markets, and afloat on the seas, for all who have the money to pay for it. Every country that ever yielded any rubber continues to do so; every grade of rubber that ever came to market is still coming; the world's total production, as a rule, becomes greater every year. All who have use for rubber goods of any sort find the market amply supplied. Where, then, is there scarcity? It is true that, now and then, consumption gains on the rate of production of the raw material, and prices may rise in consequence, but this very fact starts more gatherers to work, and prices tend downward again. Of course all crude rubber costs more than formerly, but this is true of many other things, and consumers now are as able to pay for the rubber goods they need as people ever were.

No fear need be felt that the supply of rubber will ever be monopolized. Could such a thing be done, the manufacturer, first, and the consumer of rubber goods, in the end, might be made to suffer exactions hard to bear. But a consolidation of all the firms, in various parts of the world, who have capital invested in handling crude rubber would be out of the question, if only for the reason that the rubber business as a rule is carried on in connection with other trading, from which it would be difficult to separate it. A complete monopoly of rubber, then, would mean a great general trading company, constantly liable to competition from new sources, in respect not only to rubber, but to all the other commodities. The success of the Standard Oil Co., a notable example of monopoly, is due to their complete control of the natural supplies, confined to a limited and accessible territory, and to handling their products on a very large scale, making great economies possible. Rubber, on the other hand, is obtained throughout a wide belt, extending around the world, but mostly in regions remote from civilized centers, unsuited for white men; it comes in driblets to innumerable initial markets, from millions of gatherers, whose labor practically is beyond control. Moreover, if all the forests now yielding rubber, and all the rubber gatherers at work, and all the houses trading in rubber in Ameria, Europe, Asia, and Africa, were brought under a single control, the possibility would exist of new forests being explored, new workers found, and new trading houses opened, every one of which facts would tend to the overthrow of the monopoly.

As for the future of rubber prices, certain considerations are worthy of attention. In the first place, the great increase in the demand for raw material in recent years has been due both to new uses of rubber, and to the introduction of the use of rubber goods into new fields. In not a few cases the recent rate of growth doubtless is meeting a check for the present, whereas the production of rubber seems likely to continue, in which event it would seem that prices should decline. On the other hand, a very marked decline in prices would lead to still further

new uses of rubber, which would prevent the cost from sinking to former levels, or at least from staying there very long. In this connection may be mentioned the widespread interest in planting rubber, the outcome of which can hardly fail to be, within ten or twenty years, a considerable addition to the world's supply of this commodity, which will further enable its use to be extended.

The constant fluctuations in the price of rubber are most inconvenient at times for manufacturers, especially where contracts are made for supplying goods at a certain price, which price may fail to yield a profit on account of a heavy and unexpected advance in the cost of raw material. Here is involved, by the way, the whole question of speculation in rubber prices by manufacturers, to which a further article will be devoted in a later issue. But manufacturers have it in their power, to a certain extent, to protect themselves against some of the unpleasant effects of fluctuations in prices by keeping on hand larger stocks of rubber, instead of the "hand to mouth" policy of buying that so many of them pursue.

QUALIFICATIONS OF THE SALESMAN.

SHOULD a knowledge of processes of manufacture be a part of a salesman's equipment, is a question that is receiving a variety of answers and one that is of more than passing interest. In considering it fairly it is necessary at the very beginning to eliminate the occasional brilliant traveling hypnotist who can sell anything to anybody—once—and consider rather the every day, hard working medium-priced sample carrier. The better such an one knows his route, his customers, their actual needs and their personal idiosyncrasies, the more goods he can hope to market. If to this he adds a fair knowledge of the financial responsibility of each—in other words, if he is a good traveling credit man, he makes still more money for his house.

It is taken for granted that the salesman knows enough to fairly state the excellencies of his wares, but is that enough? Is he "onto his job" with such equipment? His success is so far the result of knowledge and not of ignorance. Will more of it in any way hurt or handicap him? To cite individual cases to prove or disprove the proposition is to prove nothing at all. The question simply comes down to this: Is the manufacturing end of the rubber business a tree of knowledge of which the salesman had better not eat? Is even a little knowledge a dangerous thing, and if so where and when does the damage to the salesman come in?

Naturally in looking back at the many interrogation marks in the preceding paragraphs, the writer remembers that "any fool can ask questions," etc., and that may be true, but they are usually "fool questions," and if always met with the "fool answers" that ignorance dictates, harm to both buyer and seller is the inevitable result. The rubber trade has as able a selling force as any industry of its size in the world. Its members are alert, capable, resourceful, and magnetic. Many leading manufacturers of to-day are honored alumni of this school. And incidentally let it be noted that they were well up in manufacture while still they were salesmen.

The successful rubber salesman of the future will be a clean cut, intelligent student of his business from start to finish. His education will embrace the history of the industry, the gathering of the rubber, its manufacture, its uses and an exquisitely specialized acquaintance with the particular market that he supplies. Such men will never lack an audience, will hold their trade as none others can hope to.

THE GROWTH OF THE RUBBER INDUSTRY in other countries does not interfere with the export trade of Great Britain in this branch. The exports of rubber goods of British manufacture for three years past have increased in value as follows:

In 1898.	£1,328,702	(=$6,643,510)
In 1899.	1,388,805	(= 6,944,025)
In 1900.....	1,423,413	(= 7,117,065)

The lesson of such figures is that the consumption of rubber goods more than keeps pace with the constantly growing facilities for manufacture, not only in the countries where such goods are produced, but elsewhere—a fact which should stimulate American rubber manufacturers who are desirous of finding wider markets.

RUBBER MANUFACTURERS who have been in the habit of employing help on piece work have been troubled more or less because of the lack of uniformity in the hours which the employés use in completing their labor. Through the middle West they are meeting this problem by insisting that piece-workers have regular hours, and that they register their coming and going by time clocks, just as the day workers do. The advantage of this is that boilers, engines, and indeed the whole mechanical plant is now kept in operation for the whole working force instead of being run, as heretofore, for part of the employés.

IN SPITE OF THE FEELING OF DEPRESSION that mackintosh manufacturers have been indulging during the past few months, the future has in it a certain amount of brightness. The market for goods, of course, was upset by large stocks that were disposed of by certain big jobbing houses that are going out of the mackintosh business. Then, too, the lack of suitable weather for quite a long period effectually interfered with buying. Stocks, however, are much lessened, and it looks as if in the future the sale of the goods would be largely in the hands of the rubber jobber, where it normally belongs, and where the trade will be fostered.

BEFORE STANLEY VISITED AFRICA there was practically no rubber gathered in the Congo Free State, and no rubber in Antwerp. In April, 1890, the world learned that the Congo forests, in the opinion of the great explorer, was richer in rubber than the Amazon valley—that this section of would become "the rubber reservoir of the universe." African rubber has not yet displaced the Pará sorts, and of course never can, but already the Congo country has become an important contributor to the world's supply of crude rubber, and the output grows constantly. It is worth while to note that the arrivals of rubber at Antwerp during 1900—largely from the Congo and adjacent territory—amounted to 12,535,677 pounds, and the sales during the year to 11,827,171, giving Antwerp rank among the great rubber markets. As for the future, there is no reason to suppose that the larger part of the rubber territory referred to has been "worked," and the con-

stant increase in the number of Belgian companies organized for African trade—the first object of which is to begin shipping rubber as soon as possible—indicates that the business is far from having reached the limits of expansion.

RUBBER FACTORY INSURANCE.

THE annual meeting of the Rubber Manufacturers' Mutual Insurance Co. was held in Boston on January 23. The officers for the ensuing year are: E. S. Converse, president; B. F. Taft, vice president, secretary, and treasurer; Benjamin Taft, assistant secretary and treasurer. The directors are; E. S. Converse, Henry C. Morse, George H. Hood, O. H. Sampson, E. B. Page, James Bennett Forsyth, B. F. Taft, Robert Batcheller, George F. Hodgman, Marcus Beebe, Benjamin Taft, A. W. Clapp, C. C. Converse, William J. Cable, Eugene H. Clapp. The following financial statement was presented:

Amount at risk		$38,608,501.00
ASSETS.		
Cash—office, bank, and in collection		$ 49,761.13
Bonds and stock		293,196.25
Corporation notes		25,000.00
Gross cash		$367,957.38
LIABILITIES.		
State law obliges us to report		
Unearned premium as a liability	$148,933.95	
Unpaid losses, etc.	3,552.64	
Total liabilities		$152,486.59
Net cash		$215,470.79
Contingent premiums		1,489,339 45
Total assets		$1,704,810.24

Last rate of dividend in cash, 80 per cent.

Total amount of dividends paid in cash since the organization of this company, 1884, $1,579,832.54.

The company wrote its first policy, No. 1, January 15, 1885, on the No. 1 factory of the Boston Rubber Shoe Co., E. S. Converse, president. It was for $193,000, at a rate of 3 per cent. To-day the same policy (No. 28,189] is written for 1 per cent.. $\frac{65}{100}$ per cent., and $\frac{40}{100}$ per cent. At the time the Rubber Mutual was started, the stock rate on rubber factory risks was 1 to 7 per cent.; to-day the stock companies consider them as the best insurance risks they have, and this great change was brought about by the manufacturers themselves. They protect their property by the best approved methods, keep their plants scrupulously clean, and no class of factories is so willing to make changes in fire apparatus as they are, and no one deserves more the reduction in the cost of insurance. The Rubber Mutual has insured on rubber risks to date $26,830,994. Their losses have been only 16.91 per cent.

RUBBER INDUSTRY IN CONNECTICUT.

THE sixteenth annual report of the bureau of labor statistics of this state, for the year ended November 30, 1900, gives this information: "Fourteen manufacturers of goods composed of rubber report that 5520 was the average number of persons employed by them during the fiscal year 1900, and that the sum of $2,535,253.58 in wages was distributed among their employés during that period. The average time of employment during the year was 279.5 days, thus making the average yearly earnings $459.29 per employé, and the average daily wage rate $1.64; the wage earners receiving 13.2 per cent. of the value of goods produced." The value of goods produced is reported, by the fourteen factories, as follows:

$ 62,000.00	$ 34,500.00	$ 714,000.00
2,066,972.18	490,000.00	290,000.00
135,000.00	156,420.46	5,482,113.18
3,166,967.00	36,000.00	1,260,000 57
4,523,425.66	527,273.00	

Total, $18,944,672.05

In respect to the value of products from Connecticut factories, brass goods come first, machinery second, and rubber goods third.

TO PLANT RUBBER IN MEXICO.

THE newest company organized to go into the planting of rubber exclusively is the Obispo Rubber Plantation Co., which has been incorporated under the laws of New Jersey. It will acquire a large plantation known as "La Republica," in the state of Oaxaca, Mexico, a property consisting of 9000 acres, of which at least 8000 acres will be planted entirely in rubber, 200 trees to the acre. This will form probably the largest rubber plantation in the world. The Republic Development Co. has undertaken to plant this property and is selling shares in the plantation company. The New York office is located in the Park Row building. Among the well known men connected with the company are Mr. Robert B. Baird (Boston), an extensive dealer in crude rubber and New England and Canadian representative of Otto G. Mayer & Co.; Mr. Thomas A. Edison, Jr. (New York), electrical inventor and steel manufacturer; Mr. Maxwell Riddle, proprietor of "La Pomona" rubber plantation, Mexico, and carriage manufacturer at Ravenna, Ohio; Mr. J. H. Brewster, Jr., of the well known law firm of Tison, Goddard & Brewster, New York Mr. Byron E. Carl, long and successfully connected with the Mutual Life Insurance Co. of New York; and Mr. A. G. Weiss, rubber and chocolate planter in Mexico. The officers of the Obispo company are: Thomas A. Edison, Jr., president; Robert B. Baird, vice president; Maxwell Riddle, treasurer; Byron E. Carl, secretary.

OBITUARY.

COMMODORE ALEXANDER HENDERSON, a chief engineer in the United States navy, passed away January 12, 1901, at the age of 69 years. Until quite recently he was treasurer of the Manhattan Rubber Manufacturing Co. (New York), of which he was one of the incorporators. Some months since he resigned as treasurer, his son, Elliott Henderson, succeeding to the office. Commodore Henderson, during his long service in the navy, gained reputation as an able and brilliant officer and during his briefer connection with the rubber trade proved himself a capable and much respected business man.

=Noyes W. Fisk, president of the Fisk Rubber Co., and connected with several other important business enterprises, died at his home in Chicopee Falls, Mass., January 21, in his sixty-second year. He is survived by his wife and one son, Harry G. Fisk, treasurer of the Fisk Rubber Co.

THE Apsley Rubber Co. (Hudson, Mass.) have increased their capital stock from $200,000 to $450,000, and are expected to double their capacity for making rubber footwear.

THE annual meeting of the Rubber Goods Manufacturing Co. will be held at the company's offices in New York, February 11.

CLAIMS AND ALLOWANCES.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I want to congratulate you on the article in your last issue, headed, "On Claims and Allowances." Since my connection with the rubber industry began, the matter of claims has given me much trouble and thought. Our customers return worn out goods and not only ask, but expect us to replace them with new goods. I sincerely trust that you will follow the matter up and keep the pot boiling, which I am confident will result in much good for the manufacturers.

A GENERAL MANAGER.

January 14, 1901.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Your editorial on claims and allowances is exceedingly timely and I hope it will stir many manufacturers to the right sort of action. We are all of us sufferers from unjust claims, and almost all of us weak kneed in the matter of allowances. One of my customers recently returned as defective a fountain syringe that had evidently been used for some sort of oil injections. Of course the rubber had become soft and spongy, and the bag looked like a balloon, but my customer was of the opinion that it should be replaced. I am as anxious for business as anybody but I am rapidly getting my customers into the habit of feeling that they must be as fair to me as they are to those to whom they sell. MANUFACTURER.

Worn out Rubber Shoe, sent in to be replaced.

January 16, 1901.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Your editorial under the head "On Claims and Allowances" ought to go into the hands of every rubber boot and shoe jobber in the world, or better still, ought to be posted up on the wall where he would see it morning, noon, and night. Then perhaps they would quit returning boots that have been worn for years, resoled, patched, and generally repaired until they are past either wearing or repairing, and then returned as unsatisfactory with a demand for a new pair. I do not know how it is in other lines of manufacture, but in rubber boots and shoes, manufacturers feel that they have to put up with a lot of this sort of imposition. I enclose a photograph taken of one of a pair of rubber shoes which was returned to me, to be replaced with a new pair, although it was plain that the shoes had been much worn, and that their failure to give satisfaction was that they had been put on over leather shoes that they didn't fit. B. & S.

January 5, 1901.

THE *Gummi-Zeitung* is publishing some "Contributions to the History of the Rubber Industry." In the issue for December 14 appears an article on "The Foundation of the Soft Rubber Industry by Charles Goodyear," from the pen of L. Otto P. Meyer, late United States consul at Dresden. It is illustrated with a portrait of Goodyear and a view of "Goodyear's Vulcanite Court" at the London exhibition of 1851. A later issue contains an article from the same pen on the "Origin of the Hard Rubber Industry."

MINERAL RUBBER.

IT is probable that no man in the rubber industry in the United States has had more substitutes for rubber brought to his attention, and indeed urged upon him, either to make or to market, than the well-known rubber importer, George A. Alden, of Boston. He has always been ready to examine anything that promised to be a substitute for rubber, but was in the past unable to find one that seemed to fulfill manifest requirements. It is interesting therefore to know that his house is now marketing a substitute called "M R.," after a careful series of tests extending over two years in a great variety of goods. One of these tests, by the way, Mr. Alden himself is still conducting by wearing a pair of rubber shoes of a well known make, in which 25 per cent. of the crude rubber in the regular compound was left out and an equal amount of the mineral rubber substituted. These shoes are apparently standing the test as well as if the substitution had not been made.

The product is a semi elastic material similar to elaterite, and comes from a very large deposit in Utah, the only one, it is said, of this particular kind in the world. It is owned by the American Hydro-Carbon Co., which has a large refining plant in Chicago, the material being used for a great number of purposes besides amalgamation with India-rubber. Here it may be well to say that George A. Alden & Co., in taking the selling agency of this company, confine themselves simply to the markets found among rubber mills the world over, or along lines that are analogous to rubber manufacture.

This mineral rubber, under qualitative analysis, shows itself to be a pure hydro-carbon, the atoms of which are built up in series, precisely similar to those of crude rubber. It is wholly neutral, is free from sulphur and acids, and under heat does not throw off any vapors which might cause porosity. An interesting point about the material is that the melting point, hardness, ductility, and resistance of the product can be regulated at will, points of great importance when the wide range of rubber compounds are considered.

This mineral rubber has already been largely used in boots and shoes, and mechanical goods, and is now being tried even in pure gum goods, such as elastic bands. Vulcanized samples of goods made of reclaimed rubber and mineral rubber, and of a great variety of rubber compounds where from 15 to 25 per cent. of crude rubber has been taken out and mineral rubber substituted without apparent change either in elasticity or durability, are freely shown, and the selling agents are enthusiastic over the future of the product.

The new product has been very wisely put on the market at a low price and every facility is given to manufacturers to satisfy themselves as to its value in their particular lines of compounds. Not only are samples furnished free, but an expert rubber man is sent when required to solve the individual problems that each line of rubber manufacture presents.

NEW RUBBER FACTORY IN SWITZERLAND.

THE firm of J. Lonstroff, in Geneva, have taken on the manufacture of rubber goods, under the name J. Lonstroff, Genfer, Gummiwaaren-Fabrik (J. Lonstroff, Geneva, Rubber Goods Factory), at Carouge Chemindes Moraines 16. The *Gummi-Zeitung* (Dresden) says: "The management of the establishment is in the hands of Mr. Lonstroff himself, who will no doubt lead the same to prosperity, after an activity of eighteen years in the rubber line, and with the support of a foreman, who looks back on a practice of something more than thirty years.

THE INDIA-RUBBER INDUSTRY IN GREAT BRITAIN.

By Our Regular Correspondent.

REFERENCE has previously been made in these notes to the progress which the rain-proof cloth has made in popular favor, and at the present time this change of opinion is increasingly manifest. So much so, indeed, is this the case that middlemen say that it is no use stocking high class ladies' garments of the ordinary rubber type so popular five years ago. For the low class qualities which are turned out so largely in the Manchester district the demand is as large as ever, but people who are prepared to pay more than 15 shillings now prefer the rain-proof cloth. This cloth as sold in England at the present time is of various makes, among which that prepared by the Millerain process seems to be making the greatest headway in popular favor. In this process the natural oil is removed from the wool, which then undergoes a double chemical treatment, rendering the fiber waterproof throughout and not on the surface only. Messrs. H. H. Royle & Co., Limited (Manchester), are doing a large local trade in Millerain goods, of which they have recently introduced several new colors and patterns. The Millerain process, it may be said, involves the use of an expensive machine designed by the patentee, and I understand that the patent rights for Germany for the process have recently been sold to a German firm for £10,000, after an exhaustive trial of its capabilities. There is no doubt that the ordinary rubber waterproof, when used with an umbrella, as is very generally the case, can be superseded with hygienic advantage to the wearer by the rain-proof cloth, but at the same time it must not be supposed that the position of rubber as a perfect guard against heavy rain has been in any way assailed by the more modern material. The rain-proof coat is all right with an umbrella, and when no pressure is applied to it; friction, however, will soon cause the rain to percolate and this condition of affairs has not been remedied in any cloth of the sort which has been put upon the market.

RAIN-PROOF CLOTHS.

IN the "Jottings by the Traveling Editor" of a recent number of THE INDIA RUBBER WORLD mention is made of the fact that a chemist returned a piece of rubber as containing reclaimed rubber and new rubber. The fact that in this particular case the chemist was wrong does not, however, seem to me sufficient reason for remarking that what the chemist tried to do or to find out was an impossibility. To distinguish between the rubber itself in the two forms is, I admit, impossible in the present limited state of our knowledge, but it must be remembered that there may be general considerations in connection with such a body, as say the American recovered black rubber, which may be taken as very strong evidence of its presence in any particular mixing. It is of course very easy to doctor a sample to baffle a chemist, and the tests upon which I myself am accustomed to rely for the detection of recovered rubber might easily be rendered useless were a sample of rubber specially prepared to test my skill. Still, in the ordinary way I have rarely felt any compunction in certifying to the presence of reclaimed rubber where this is of certain well known brands. In the case of brands of other quality or which have been manufactured by a process with which I am not familiar I must own that I should experience extreme difficulty in arriving at a just verdict.——A further note in the "Jottings" referred to the addition of inferior tree juices and of farina to raw rubber. It is quite possible that the rather peculiar resins which one can extract from certain African rubbers are not the product of the rubber tree at all, but come from an extraneous source as aids to sophistication, and it would seem that due caution should be exhibited in associating the resins found in the rubber on the market with the particular species of tree from which the rubber has been derived. With regard to farina I was not aware of its use, and it must certainly be considered objectionable as leading to fermentation.——More than a year ago reference was made in THE INDIA RUBBER WORLD to fermentation occurring in bottle tubing, etc. If I remember aright the answer given by THE INDIA RUBBER WORLD to a query as to the best way of remedying it was "buy a new one." It may not be generally known but some qualities of fine cut sheet when placed in a damp atmosphere will readily ferment while others will not—a fact which I have proved to be due to a variation in the treatment of the rubber during manufacture. What bad effect if any this fermentation which results in a green mold has upon the longevity of the rubber is a matter on which I have no information.

RUBBER ANALYSIS.

WHAT was considered in my last notes as possible has come to pass with regard to connecting rubber tubing with the beer scare which has excited so much interest and apprehension in Manchester and other northern towns. A medical officer of health has been busily engaged in testing the tubing and has succeeded in finding evidences of arsenic therein. It is not seriously suggested that the arsenic which has caused all the trouble has been derived from this source, for it has been shown definitely that the sulphuric acid used by certain glucose manufacturers is the true source of the evil. From the little notice that has been taken of the reference to the beer tubing it would seem that the rubber manufacturers are not disposed to excite themselves in the matter. It is to be hoped that the present craze for searching for traces of arsenic in all sorts of materials will diminish in intensity because otherwise the public may be needlessly alarmed. Arsenic can be detected in such traces by the delicate tests that are known to science that it will undoubtedly be found in many materials in minute quantities where it was not previously suspected. Except, however, where the yellow sulphide of arsenic is used as a pigment, I know of no other material used by rubber manufacturers where it need be expected to occur in anything like dangerous proportions. With regard to the yellow sulphide of arsenic, which has been sold to rubber works under some other name, it certainly seems desirable that its poisonous properties should be duly made known to the buyer by the vendor.

BEER HOSE.

IT is not every day that one can record an entirely new use for rubber, but that just to be mentioned comes I imagine in the category of novelties. This is a waterproof packing paper to be used in the packing of Manchester goods for ocean transit. It consists of a particularly hard brown paper, very difficult to tear, made from Norwegian wood pulp, two layers of this being stuck together by a solution of rubber of the ordinary type. Messrs. Millington & Sheldrich (Manchester) are the sole agents for the United Kingdom, and great things are expected of it, though, as it has only been on the market three or four months, it is rather too soon to predict success or failure. The present use

WATERPROOF PAPER.

of rubber solution, it must be noted, is different from its attempted employment in calico-printing, for whereas in the latter case the rubber was expected to retain perennial youth and failed to realize expectations, in the former case it is only expected to last until the goods are unpacked.

ECCLES RUBBER CO.

AT the somewhat belated annual meeting of this company, held at Liverpool on December 31, no statement of accounts was forthcoming, though the chairman foreshadowed that when these would be submitted at the adjourned meeting to be held on February 28 a loss would have to be faced by the shareholders. This company's business, it should be noted, is largely concerned with cycle accessories and so has, to a greater extent than in the case of purely rubber firms, been affected by the high prices for metals which have ruled during the last year. There are other reasons also which can fairly be held to account to some extent at all events for the disappointment which the shareholders have to face, and there is no reason to suppose that it will next year fail under better conditions to regain its position as a prosperous dividend paying concern. A disastrous fire took place at the works in the middle of December, but though it has naturally affected the carrying on of the business, it is understood that the loss, which is estimated at £20,000, is fully covered by insurance.

CAPON HEATON & CO.

THE decision that has been come to by the shareholders of this concern to wind up is one that might with advantage have been arrived at sooner. Misfortune seems to have dogged the steps of the company since the flotation of the private rubber manufacturing firm of Capon Heaton & Co. with the Tubeless pneumatic tire, over-capitalization being a prominent evil. A considerable litigation in which the company were involved regarding patent rights was a source of large expenditure, and it certainly does not seem that the manufacturing operations have been carried out with that care and skill which are so necessary in undertakings of the kind. A good deal of money has been made in the past by Capon Heaton & Co. in the general rubber business and there seems no reason why the local connection should not be maintained if the concern is started again as a rubber works on a rational basis of capitalization. Mr. H. Heaton, Jr., left the firm about eighteen months ago and is now the moving spirit of the Gorton Rubber Co., near Manchester.

ENGINE PACKING.

THERE are several firms who, without being rubber manufacturers, yet make and sell rubber packings on a large scale. Some of these have spreading machines of their own, while others simply buy the rubber core and hemp or linen cloth and make up the packing with rubber solution by hand. Of these packing firms may be mentioned J. W. Roberts & Co., of Armley, Leeds; Wotherspoon & Co., of Glasgow; Turner Brothers, of Rochdale; and Ritchie Letham, of Oldham. There is naturally a large demand for their products in the great industrial centers of the north of England and in Scotland.

COAL.

WITH the advent of a spell of cold weather over practically the whole of Europe there is no hope that coal prices will show a diminution, though there is a tendency in some branches of manufacture to discontinue working rather than pay the exorbitant prices demanded. The colliery people have had a very good innings and outsiders are naturally inclined to grumble. Not only do the colliery people hold the upper hand at present as regards prompt delivery but they have abolished giving the dealer the extra cwt. to the ton to make up for loss by dirt. It has long been felt rather anomalous that, while the colliery owner comes under no law for supplying shale and pyrites to the steam or for not giving full weight, the law in the case of the retailer as to exact weight is strictly enforced.

SOCIETE INDUSTRIELLES DES TELEPHONES.

To judge by the appearance of the works of this company at Calais, through which town I passed recently, it would seem that the reports as to the damage done by the fire which occurred last month were somewhat exaggerated; rebuilding is going on in a certain portion, but the main buildings gave no appearance of having suffered any damage. The loss appears to be chiefly in finished telephone wires, for which the company has a large contract with the National Telephone Co., of London.

PERSONAL.

THE alteration in the firm of W. & A. Bates, of St. Mary's Mills, Leicester, is one of that kind which took place some years ago with Messrs. Macintosh & Co., and also quite recently with Mr. Frankenburg. That is, it is a private limited company, no shares being offered to the general public. Messrs. Bates have built up a large business in recent years and have several times enlarged their premises. One of the principal working members of the staff, like so many others in similar positions, learnt his trade thirty years ago at Messrs. Macintosh's.——At the time of writing I regret to hear that Mr. David Moseley is dangerously ill with typhoid fever at his own residence, and I trust that next month I shall be able to report convalescence.

GERMAN RUBBER NOTES.

SOME statistics of the German India-rubber and Gutta-percha industry have been given out, from the industrial census of 1895, which would indicate that the United States is not alone in the slow publication of census figures. The following analysis of the employment in these industries has been made:

	Plants.	Employés.
Employing 5 hands or less	175	320
Employing 6 to 50 hands	82	1,486
Employing more than 50 hands	45	10,704
Total	302	12,510

There are some additional plants making some use of India-rubber and Gutta-percha, bringing the total up to 334. In the rubber toy industry five concerns have been discovered, including four "principal concerns," in which four persons make their living. This latter information is peculiar, in view of the enormous exports of German rubber toys, and is to be explained only on the theory that only plants have been included which are devoted to the production of rubber toys alone.

We have been asked by a subscriber to comment upon a statement by United States Consul Hughes, at Coburg, Germany, in the *Consular Reports* for November, to the following effect:

> Russia imported more crude rubber than Great Britain and five times as much in 1899 as in 1898.

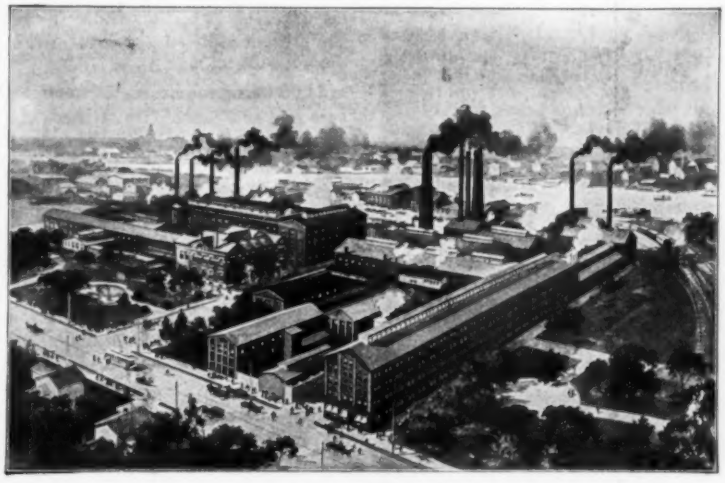
Although the consul fails so to state, the report from which this sentence is quoted relates solely to the crude rubber trade of Germany, from which Russia did import more rubber than Great Britain imported from the same course. And it is only from Germany that Russia imported "five times as much in 1899 as in 1898."

An improved demand for rubber shoes in Germany is reported by the *Gummi-Zeitung*. One important producer is said to have disposed of its whole production for the season. There is complaint, however, that prices have been too low.

THE TWENTIETH CENTURY-GOODRICH FACTORY.

THE illustration on this page represents the plant of The B. F. Goodrich Co., known also as the Akron Rubber Works, without the latest additions. The cut does not show the last four buildings the company have put up. One of these four is the electric power plant. This is now one of the largest rubber factories in the world, being the outgrowth of the pioneer plant in this industry at Akron, Ohio, which has become a rubber manufacturing center of the first rank since the late Dr. Benjamin F. Goodrich settled there in 1870. The Akron Rubber Works, it is scarcely necessary to say to readers of THE INDIA RUBBER WORLD, produces on an important scale every line of rubber goods other than footwear, clothing, and insulated wire. They manufacture hard rubber, however, only for their own requirements.

For a year past the engineering corps of the company or "Department No. 10," has had a force of laborers, carpenters, machinists, electricians, and specialists tearing down, re-building, rearranging, in a word, turning the huge plant, which most people thought perfect, into a twentieth century rubber factory. This factory, equipped with the best machinery, manned by a selected corps of workers, and governed by the most complete system, is the marvelous, yet normal, result of organizing ability, financial and mechanical resource, stimulated by a keen appreciation of the rewards in store for those who can not only stay in the race, but distance competitors. To say that the power plant, for instance, embodies the best that engineers can do, and that the great batteries of boilers, fed by automatic stokers, with endless chains of elevator buckets for unloading coal from the cars and reloading with ashes, are the most efficient as well as the most economical evaporators of water yet installed, is not as impressive as a visit to the boiler house. Nor does the bald statement that the 4000 horse power of boiler efficiency is accompanied by 2500 horse power engine capacity give one a mental view of the perfect machines that help furnish energy for the whole plant.



THE AKRON RUBBER WORKS.

An interesting adjunct to the power house is the fire pump equipment, consisting of two water throwers—a Gordon and a Worthington—but of more interest is the trained fire brigade made up of workmen in the factory, who sleep in neat quarters directly over the pumps. In this department is installed a complete fire alarm system with signal boxes in every room in the factory. An alarm of fire reported here, is at the same time repeated at the city engine house, its location being as exactly given as it is at the factory. There is, in addition, complete sprinkler protection, water being supplied both from the city mains and from the canal that runs close to the works.

One part of the reconstruction has been the elimination of shafting, gearing, and pulleys, and the substitution of independent motors electrically driven—the first complete rubber factory equipment of the kind in the world. To do this efficiently, that is, to carry the cables, wires, water and steam pipes, to the various departments, there is a system of subways that all told must be a half mile in length, so arranged that any portion of pipe, cable, or wire, is easily reached for repair or rearrangement.

In the application of this power each calender has its motor, while the mixing mills, 84"×26", are set in pairs, with a small warmer between, each three having a motor. The visitor at once notes that mixers, refiners, and indeed, all of the mills, are set so high from the floor that the workmen can barely see over the rolls. This is done, not only because there is less danger of accident to the worker, but also because he works to better advantage than when obliged to assume the exaggerated stoop that the old setting demands. As an additional safeguard, there is an extremely sensitive electric clutch that the weight of a finger can operate, which stops the mill instantly whether running full or empty.

One could go on for a day's writing and then not describe in detail all that is interesting in the various departments. Each warrants a special article. For example, the laboratory seems a bit overburdened by the name "Research and Test Department," until one sees in it an equipment that many a technical school would envy, and which few manufacturing establishments would have the courage to install. One wishes to linger also over a description of the department that goes under the modest name of "Press Room." Here double platen hydraulic presses by the hundred make a most impressive display. So, too, with the ample lunch room, where free coffee and milk are served during the noon hour—a bit of factory equipment that perhaps is as practical as an automatic stoker.

It is perhaps well to remember that it is the system that makes a homogeneous whole out of this assemblage of great machines, modern appliances, and busy workers, that is most worthy of notice. This system is indicated by the division of factory business into departments, of which there are twenty-one, each individual and separate, buying from and selling to the others, and settling through an exceedingly efficient clearing house.

These departments are: (1) Calender and Mill Room; (2) Press Room; (3) Tires—Bicycle, Solid, Vehicle, and Automobile Pneumatics; (4) Handmade Goods and Roll Coverings; (5) Rubber Hose of all kinds; (6) Cotton Hose; (7) Reclaim-

ing Factory; (8) Machine Shop; (9) Carpenter Shop; (10) Engineering Department; (11) Oil and Cement Department; (12) Warehouse; (13) Rubber Thread; (14) Shipping; (15) Belting; (16) Palmer Tires; (17) Specialty Department; (18) Advertising Department; (19) Research and Test Department; (20) Paper Box Department; (21) Matting and Tiling Department.

It would delight the heart of the writer to give pen pictures of the men who have made this great corporation what it is, and who are so wisely insuring its future, but they one and all dodge the camera and deny the paragrapher. However, they are known, and their deeds speak for them.

WHAT THE RUBBER SALESMAN SHOULD KNOW.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In answer to the question, "Is it necessary to the success of a rubber salesman that he be a practical rubber man?" it doubtless will be found that a diversity of opinion exists, even among men of long experience in the rubber manufacture, and who have had many salesmen in their employ. True, there are many men who are "born salesmen" and can sell anything from a mouse trap to a rubber plantation, yet to that class also belong "gold-brick" men, "green-goods" men and the wily hypnotizers. Of course it is not meant that all gifted, natural salesmen possess such a character, and the ability to sell goods is a talent to be admired.

There is no line of goods which would seem to require a practical, or factory knowledge, on the part of the salesman, more than the rubber line. By the way, there are different ideas of success. Some are satisfied with good results and term it success; but the results most meriting that term would seem to come to him who is not satisfied until he has exhausted every possible means to equip himself for his chosen calling. While many men have become very successful rubber salesmen without this experience, yet might not that success have been much greater with it?

When a salesman goes out on the road to sell his wares the occasion often arises when he is asked for prices on some article a prospective customer has in hand, but which is not staple with the salesman. The result is that he must submit the sample to his factory for prices, while the order remains to be secured by correspondence or else the salesman must make another trip. But in the meantime another salesman, experienced in the factory, comes along, figures out his price and secures the order. Why? Because the customer is encouraged to feel confidence in the salesman and is not compelled to wait for his goods. This particular situation may be unusual, but the man who can meet every emergency in his line of business is the man who makes the real success.

A salesman who is experienced in the factory has more confidence in himself than he would have without it, and also more confidence in his goods, while the customer will have more confidence in them both, and confidence is the key-note to a salesman's success. If it were not, we would have fewer "confidence men," and their flourishing games would pass away.

An interesting story is told among the "boys," on a certain drummer of the "old guard" who is well known in the rubber trade. For convenience we will call him Brown. Well, Brown was loaded down with belting samples and sent out into New England to bag a large order. The prospective customer was in the market for a large quantity, and many salesmen were soliciting his business. They had nearly all made their talk when Brown's turn came. With confident (?) air he walked in and was greeted cordially.

"Now Mr. Brown," said the buyer, "I confess total ignorance about belts, but these gentlemen before you have explained how their belts are made and their good points. Now how is your belt made and what advantage has yours over theirs?"

Brown thought it over some time, then, throwing his samples on the man's desk, making enough noise to startle him, he said: "You know just as much about it as I do! I am no liar!"

Brown doesn't visit that town now. J. T. P.

January 8, 1901.

THE OTHER SIDE OF THE QUESTION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The recent article headed "A Word to Traveling Men," in your "Publishers' Page," should attract the attention of this worthy but hitherto overlooked class of your readers. By the way, by your invitation to the traveling man to "give an account of himself," you have very adroitly shifted to him the responsibility for getting fuller recognition in your columns.

Your question to which you invite a discussion—"how far the knowledge of the details of manufacture helps in the sale of rubber goods"—appeals to me at once as prolific in suggestiveness. Personally, I have no knowledge of the manufacture of rubber goods; in fact, I have never been inside a rubber factory, although I have been in the business from boyhood to the present time—in all over twenty years. Yet I have not been unsuccessful. I confess that I have harbored a desire to see and know something of the details of manufacturing. The sum and substance of my experience would incline me to give answer to your question somewhat as follows:

My desire to know something of the details of factory work has been born of curiosity and not of necessity.

A little knowledge might lead to worse mistakes than no knowledge.

Occasions that do arise where factory experience would be of value are very few, and where they do occur, reference to the factory is absolutely necessary, no matter how much knowledge the traveling man may possess.

I cannot recall one instance where any loss of business has been due to my lack of knowledge of the details of manufacture. Therefore I cannot feel that with a complete knowledge of practical factory work I could have been any more successful as a salesman. F. H. H.

January 17, 1901.

THE GOODYEAR CENTENNIAL.

[FROM THE "GUMMI-ZEITUNG," DRESDEN.]

ON the day when this number is being issued (the 29th of December) one hundred years have passed since the founder of the modern rubber industry was born into this world. It seems proper for every one in our line to look backward, on this day, upon the indefatigable inventor, the never resting spirit, who in the most unselfish manner devoted his life to a cause, regarded by many as being without prospects, and which nevertheless he led to a most glorious end at the cost of enormous personal sacrifice. In a recent number we offered a detailed description of his life and of his activity as an inventor, so as to enable our readers to appreciate most fully to-day the merits of Goodyear. He became the founder of a great and flourishing industry, which gave work and bread to thousands of men, which increased the wealth of nations, supported cultural progress, and the development of mechanical science in a marked degree, without which many achievements of our modern days would have become impossible. Honor to His memory!

THE USE OF RUBBER SUBSTITUTES IN GERMANY.

By John S. McClurg, M. S.

WITH the ever increasing competition in the rubber industry there comes, from necessity, a corresponding increase in the number of appliances, methods, and other available means whereby rubber goods can be more economically produced without an appreciable reduction in qualities. To the rubber manufacturer this question appeals very forcibly, because it has been, and is to-day, a serious problem which requires not only brains, research, and a thorough knowledge of crude rubber, but, above all else, a scientific knowledge of the chemicals and other ingredients employed, and the chemistry of them. To suppose that any one can aimlessly mix together a heterogeneous mass of crude rubber, compound, shoddy, substitutes, and what not, and obtain successful results, is as gross an absurdity as to suppose that a quantity of building material can be thrown into an excavation and, within the night, be transformed, as if by magic, into a beautiful dwelling. However, the results obtained by some operators would seem to indicate that they have worked along just such lines.

The Twentieth Century has dawned upon the universe, and in the great race for industrial and commercial supremacy there is no place for the "all-around man," with hit-and-miss propositions. Every man must be a specialist, and must master his specialty. The success of our contemporaries, the German manufacturers of rubber goods, in producing a high class of rubber goods very cheaply is due very largely to the fact that their men are educated to do some particular thing, and to do it well. It is a fact that the German manufacturer in many lines produces a better class of goods, considering the cost of production, than the American manufacturer; besides, they have produced certain articles which Americans have not, as yet, been able to produce at any cost.

This article is intended to convey to American operators some idea of the reasons why these facts exist, and of the methods employed to obtain the end, as it was obtained by the writer by careful observation in Germany.

The Germans as a nation lead the world in chemistry and its application to the industries and the arts, and they have applied it to the rubber industry in a most scientific and practical manner. In this they have shown sound sense and good business judgment, because there are few industries that employ chemicals more abundantly, and few industries in which the proper chemicals can be more beneficially used than in the rubber industry.

The great cry of recent years has been for cheap priced goods; consequently the operator has been thrown upon his resources to meet not only this demand in itself, but also the competition which naturally attends all such demands. New machinery has been introduced, electrical appliances installed, and an abundance of various ingredients introduced to lessen the cost of production. Chief among the latter is "shoddy," or reclaimed rubber, which has come into very wide use, and for a time it met the demand. However, not satisfied with existing conditions, the consumer demands something cheaper, and in consequence substitutes have been resorted to, to meet the requirements of the trade.

Of the latter, a very large number have been thrown upon the market, some of which possess real merit; still a large majority of them are bad, if not utterly worthless. There are some substitutes, however, which have been condemned as useless, yet which, should they be properly manipulated, might prove of value.

A great part of the fault lies with the operators, because they have taken their stock recipes and cheapened them by adding substitutes without regard to the effect it may have upon the mixture chemically. This is a very serious error, and our German contemporaries have not fallen into it, because they do things more thoroughly than the average American, with relation to cause and effect.

The German rubber manufacturer makes his own substitutes in most instances, and therefore he knows what they contain in the matter of chemical ingredients. Fortified with these facts, he is prepared to reconstruct his rubber recipes, not only to overcome any objectionable features that the substitutes may impart to them, but also that the substitute may benefit the mixture and become an ingredient of merit rather than an injurious one.

Substitutes improperly used render the rubber soft and the goods very readily deteriorate in value, while, if judiciously used, based upon a scientific knowledge of the subject in all its details, the manufacturer is able to produce a good quality of rubber that will wear well and give good satisfaction to the consumer, at a great reduction in cost. Nearly all German rubber recipes carry a large amount of substitutes, from the cheapest to the best grades of rubber, yet the stock is very tough, wears well, and lasts as long as most stocks containing no substitute. Many of their compounds contain a larger percentage of substitute than crude rubber, yet such chemicals are employed that the sponginess usually imparted to the mixture by the substitutes is overcome and its identity lost except as to the cost of the finished goods.

White and brown substitutes are employed with equal success, which demonstrates conclusively that the Germans have mastered the substitute problem, even in these early stages of its development, and it is fair to assume that they will make greater discoveries in the not distant future. The substitutes most universally used are the brown and the white. French substitutes, made from oil, as the various cellulose and corn substitutes, have proven worthless. The German manufacturers are, however, constantly in search of new ingredients with a view to something better than has yet been found.

There can be only one explanation of these conditions, and that is the fact of their mastery of chemistry, and their scientific study of all details which affect their business and the doing well of all things worth doing.

These observations are given to show Americans what others are doing with an article in the infancy of what is certain to be a long and successful existence. The man who meets conditions practically and scientifically as they arise is the man who will lead in the present and future race for industrial supremacy, and herein is embodied a subject well worth a careful business-like consideration as a means to the end.

"RUBBER goods of all kinds" are mentioned in a list of articles kept on exhibition in the German sample rooms opened recently in Constantinople, and which are expected to contribute in an important degree to the development of the German export trade to eastern Europe.

THE RUBBER TIRE INTEREST.

REPAIRING AUTOMOBILE PNEUMATIC TIRES.

BY RICHARD A. LEIGH.

NO methods for the repair of automobile tires different from those employed for the repair of bicycle tires have yet been evolved, with the exception that the apparatus used is heavier and the mechanical skill required is of a higher grade. The method as practiced in the repair shops of the New England Vehicle Transportation Co., of Boston, for repairing cuts and punctures is a fair sample of what is done in other large repair shops.

They first cut out the portion of the tire surrounding the puncture which, of course, increases the size of the hole.

This is obviously necessary to any one practised in the art, for before a tire can be treated successfully all damage to the inner tube must be removed. The next step is to cleanse with naphtha the inside of the surface of the tube around the puncture, and then apply a coating of quick curing cement. When the cement is dry a sheet of rubber cut to the size required is forced through the puncture and pulled up against the inner wall of the tube. This sheet of rubber is made preferably of two thin sheets rolled together, one sheet being vulcanized and the other sheet unvulcanized and of about the same quality as the cement used in the operation.

The reason for having the sheet so made is to facilitate its handling, as the unvulcanized portion will readily adhere to the cement and the vulcanized side will prevent closing of the inner tube. Another layer of unvulcanized sheet is then laid on the outside of the one described, and the required number of layers of fabric are laid over it and the outer cover applied, when it is ready for vulcanizing.

The vulcanizing apparatus used is that which is in vogue in most large repair departments, namely, the ordinary rubber press combined with a section mold of the same diameter as the tire to be repaired. The repaired portion of the tire is enclosed in the mold, which is then placed in the press and subjected to the desired temperature for the time necessary to complete the vulcanization. It is found necessary at times to cut the tire in two and vulcanize in a new section. To do this, a sheet of rubber prepared as previously described, and cut of a size equal to the inside diameter of the tire, is placed on the inside of each end, so as to form a bushing, and a sheet of unvulcanized rubber wound around it. Before the union is made, each end of the tire has been prepared by stepping the plies of fabric and thoroughly cementing their surfaces. After the union is made a piece of fabric corresponding to the width of each step is placed around it in successive layers, and the cover then applied, when it is ready for vulcanizing.

The only difference between methods employed in the United States and elsewhere seems to be in the devices for vulcanizing, or in some little detail of applying the fabric.

In some cases, after the puncture is prepared, it is flattened out on a steam chest with the aid of a block, and a flattened iron bar used as a lever and kept there unril the vulcanization is accomplished. Undoubtedly the section mold is preferable to the last named method, as it keeps the tire in the shape it must retain when in use and avoids injury to the fabric.

It has surprised me that these repair departments will continue to go to the expense of cumbersome presses and great variety of section molds, when the section mold of itself can be made in the form of a steam chest with interchangeable tubes to conform to the different diameters of tires in use, at one-tenth the cost, as well as giving greater facility of manipulation.

In Paris, London, and other European cities the methods used are as primitive as those in use here; in fact, up to the present time they seem to be duplicates of each other, with the exception that we here seem to have on the market a great number of tools and devices showing great ingenuity, but practically of no value for the purpose for which they were designed.

Cements of various compositions that were warranted to harden on exposure to the air have been tried, but up to the present time have proved of little value, and have been discarded by the practical worker. A new composition in the form of a fluid to be injected into the tire is now being experimented with. The claim advanced for this particular fluid is that the composition can be so regulated as to form a jelly of a consistency required for any given load the tire may be called upon to carry, and adjust itself so that it will keep air tight any puncture the tire may get while in use. The best recommendation this method has is the fact that it is being extensively tried by men of undoubted ability in the manufacture and repair of automobile tires.

Bristol, R. I., January 16, 1900.

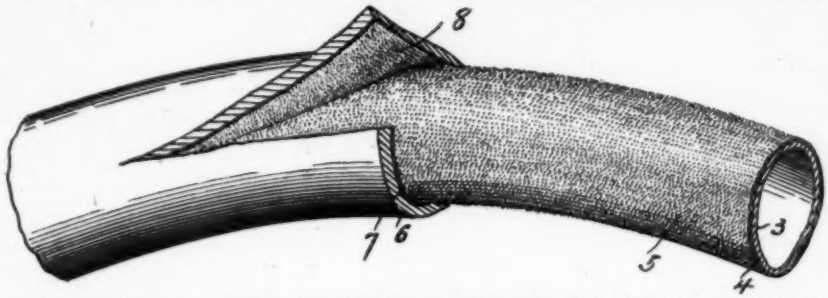
THE FISK BICYCLE TIRES.

THESE tires, manufactured under a Tillinghast license, are of two types, designated, from the character of the fabric used in making them, "Thread" and "Close Woven." In the "Thread" tires the fabric is woven with occasional cross threads, and two plies or layers, with the warp threads at right angles to each other, are necessary to give strength. The illustration No. 88 shows a section of the completed tire with one layer of fabric, having the threads running spirally around the tire from right to left and the second layer from left to right. A combination is thus formed in which the warp and woof are not woven together, but are laid one upon the other and held by flexible rubber. In the "Close Woven" tires (Figure No. 66) the fabric trheads are woven together in the usual manner, with the warp and woof interlaced. The tire is made up of two layers cut on the bias, so that the threads run spirally to the right and to the left, as shown in the illustration. Each thread is more closely held by the other threads interwoven with it and the action of the tire more limited, and somewhat less active. The "Close Woven" fabric tire, while not so fast as the "Thread" tires, is preferred by the more conservative riders on account of lessened liability to puncture.——Tires are also made from the Fisk fabrics for automo-

bile and carriage use, up to 3 inches in diameter; besides which special types are offered for sulkies and motor cycles. [Fisk Rubber Co., Chicopee Falls, Massachusetts.]

SEIBERLING'S NEW PNEUMATIC TIRE.

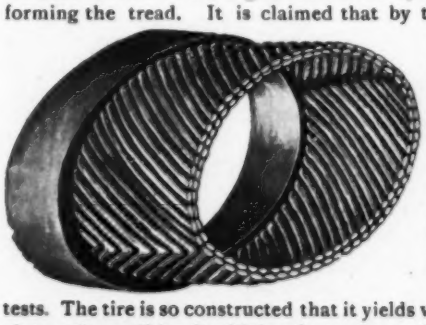
THIS invention, patented by Frank A. Seiberling (Akron, Ohio), consists in such a construction of parts of what in other respects may be called a "single tube" tire, that the air tube and the cover are prevented from uniting during vulcanization; whereas a distinctive feature of the Tillinghast patent is that the tire to which it relates shall be converted, through vulcanization, into as nearly a single tube as the nature of the materials will admit. In the Seiberling tire the air tube is formed of an inner layer of rubber and an outer layer of fabric adhering thereto, and the outer sheath or cover is formed of an outer layer of rubber and an inner adhering layer of fabric. The fabric of both the air tube and the cover are napped on their contiguous surfaces in such a manner as to prevent their adhesion when the tire is vulcanized. The tire as above described, with the assistance of the accompanying illustration, is covered by United States patent No. 646,709. A further patent, granted to the same inventor (No. 646,710), embraces the further element of an intermediate layer or layers of fabric or other material, wrapping or inclosing the inner tube as above described, and having frictional contact with both inner and outer tubes, but not uniting with the contacting surfaces of either during the process of vulcanization. This intermediate material may be ordinary muslin, but preferably of a close texture.



[3—Inner tube of rubber; 4—adhering layer of fabric; 5—indicates napping of the fabric; 6—external layer of rubber; 7—adhering layer of friction cloth; 8—indicates napping or roughening of surface.]

THE IVES SPEED TIRE.

THE illustration shows a newly patented thread tire which is extraordinarily resilient and for which is claimed a certain amount of self-propelling power due to the compact arrangement of the threads. These, as will be seen from the illustration, are laid on in an angular form, the apexes of the angles forming the tread. It is claimed that by this arrangement, when the tire is put on a certain way and the rider is in the saddle, a marked forward propelling tendency is developed. This has been proved in a great number of coasting contests. The tire is so constructed that it yields very readily to any obstruction striking it with less force, thus reducing the liability to puncture. Another point of interest regarding the tire is that the tread can usually be thickened by extra plies of thread so that it will still be very resilient and yet puncture proof if desired. In brief, the points of value in this tire are that it inflates in such a manner that the tread is in the form of a ridge, and the sides of the tire are hard, while the tread is soft and the tire from its construction has a tendency to roll in one direction. J. F. Ives, the inventor of this tire, has long been active in the tire trade. In the early 90's he began work with George R. Bidwell and the New York Belting and Packing Co., and from there went to Cleveland. His first patent for the tire described was filed October 8, 1897, and was invented while he was manager of the tire department of the Mechanical Rubber Co. of Cleveland. Although the Ives Speed Tire patent was filed at the day given, as there were certain mechanical obstacles in the way of making a machine to produce it cheaply and, as there were certain changes in the tire itself that Mr. Ives desired to effect, it was not until January 8, 1901, that the patent was finally issued. It is now being manufactured by the Pennsylvania Rubber Co. (Erie, Pa.), who are equipping themselves to put it on the market in the best possible fashion.



TIRES AT MADISON SQUARE GARDEN.

THE sixth national exhibition of cycles, motor cycles, automobiles, and accessories, at the Madison Square Garden, New York, opened on January 12 and closed on the 19th. It lacked many of the elements which contributed to the interest of some former shows, when everybody was concerned about the changes in cycle construction all the time in progress. The number of exhibitors of cycles and parts was much smaller than in some former years, partly for the reason that, since the advent of the American Bicycle Co., the number of plants and of separate brands of goods is much smaller. The number of tire exhibitors was smaller, and there was practically nothing new in cycle tires, as was to have been expected. The tire firms who were represented seemed to be concerned most particularly about capturing the interest of the automobile trade, though the number of these vehicles actually exhibited was small. Exhibition spaces were occupied by The Hartford Rubber Works Co., Diamond Rubber Co., International Autmobile and Vehicle Tire Co., Kokomo Rubber Co., American Dunlop Tire Co., and The Fisk Rubber Co. The attendance seemed to be largely of the class which are attracted to such shows in the hope of capturing handsome souvenirs, and the crop of these was so large as to remind the onlooker of old times.—There was no busier group of "demonstrators" in any of the exhibition spaces than those engaged in explaining, during the busy hours of the show, the new all-rubber two-part tire valve, of the American Pneumatic Valve Co. (Buffalo, N. Y.), of which descriptions have appeared lately in THE INDIA-RUBBER WORLD. It seemed to make a favorable impression on every hand, and the inventor of the valve, Edward F. Pickett, who was in attendance during the week, was liberally complimented upon his work.

A TIRE FACTORY IN AUSTRALIA.

THE Pneumatic Tyre Co., of Australia, Limited, formed recently to control the Dunlop tire interests in that country, are establishing a factory at Melbourne for the manufacture of tires and covers, with a view possibly to adding other lines of rubber goods.

—The India Rubber Co. (Akron, Ohio), a concern, by the way, that does a great deal of thinking and inventing, are very nearly ready to launch an entirely new type of automobile tire.

AMERICAN CONSUMPTION OF RUBBER FOR 1900.

AS indicated by the table at the foot of this page, the imports of crude India-rubber during 1900 were larger than for any preceding year, with the exception of 1899, a year in which rubber factories here did a phenomenal business. It was predicted by the more conservative manufacturers, at the beginning of the year just closed, that a smaller consumption would result, for the reason that the normal requirements of the country did not call for so much rubber every year as was consumed in 1899. Some time previous to that year the country had experienced a period of depression, which had lessened the consumption in most lines of production, and when the buying of rubber goods did begin on a liberal scale, every manufacturer felt tempted to make the fullest possible preparation for the expanding business. Dealers, too, felt disposed to take on larger stocks, besides which consumers generally bought freely to replace rubber goods which had long been in service. It was felt, therefore, at the commencement of 1900, that requirements in rubber goods of most kinds would be less pressing than for a year or two previous, and many factories were conducted in accordance with this idea. Yet some leading operators report that their business during the year showed no decrease, but, on the contrary, experienced a growth. On the other hand, however, must be considered the rubber footwear trade, which doubtless was handicapped during the year by the fact that the winter of 1899–1900 was unfavorable for the sale of goods, and that considerable stocks were carried over to the present winter. Thus the smaller deliveries to manufacturers during the year do not indicate a decline in the rubber industry on the whole, but only its progress through the year on something nearer a normal basis than in the exceptional year preceding.

These figures do not include Gutta-percha, Balata, or the cheaper East Indian gums—all of which are taken into account in the India-rubber statistics published by the government, and by some private statisticians as well. The long ton of 2240 pounds is the unit. From the same source is obtained this comparative statement of the prices of fine Pará rubber in New York and Liverpool, for nine years past:

YEARS.	New York.	Liverpool.
1892	62½@ 74	2. 8 @2.11
1893	64 @ 79	2.10 @3. 3
1894	64½@ 73	2. 9 @3. 1
1895	70 @ 81⅛	3. 0¼@3. 4¼
1896	71 @ 85	3. 0 ¼@3. 8¾
1897	79½@ 89	3. 5 @3. 9
1898	82 @1.06	3. 7½@4. 5
1899	91 @1.10	3.10 @4. 7¼
1900	83 @1.11⅛	3. 8½@4. 9

The figures in the next table, showing the extent of the world's visible supplies of rubber on January 1, 1901, have been derived from the Messrs. Morse's tables, though they are given on this page in pounds instead of tons, in order that they may be compared readily with former tables:

	Pounds.
Stocks in the United States	2,683,520
Pará grades	1,444,800
Central American and Caucho	939,680
African and East Indian	999,040
Stocks in Europe	9,408,000
Pará grades	1,971,200
All other	7,436,800
Stocks Pará grades at Pará and afloat	4,524,800
Total	16,616,320
Total, January 1, 1900	10,251,480
Total, January 1, 1899	10,215,440
Total, January 1, 1898	9,920,960
Total, January 1, 1897	10,673,600

The next table analyzes the imports of crude rubber into the United States by grades, the figures denoting tons:

YEARS.	Fine Pará.	Coarse Pará.	*Centrals.	African and E. I.	Total.
1893	7,444	2,916	2,370	3,690	16,420
1894	6,839	2,614	2,309	2,881	14,643
1895	7,121	2,767	2,307	3,987	16,182
1896	6,515	2,706	1,807	3,303	14,333
1897	7,556	2,935	2,404	4,776	17,671
1898	6,804	2,935	3,003	5,878	18,620
1899	8,622	3,876	3,440	7,157	23,095
1900	8,079	3,906	3,020	5,463	20,468

[*Including Caucho and Pernambuco.]

The percentage of fine Pará as compared with the whole imports increased slightly in 1900. The percentage for seven years has been; 45¼ in 1893; 46¾ in 1894; 44 in 1895; 45⅝ in 1896; 43¼ in 1897; 36½ in 1898; 37¼ in 1899; 39½ in 1900.

HENRY A. GOULD CO.'S STATISTICS.

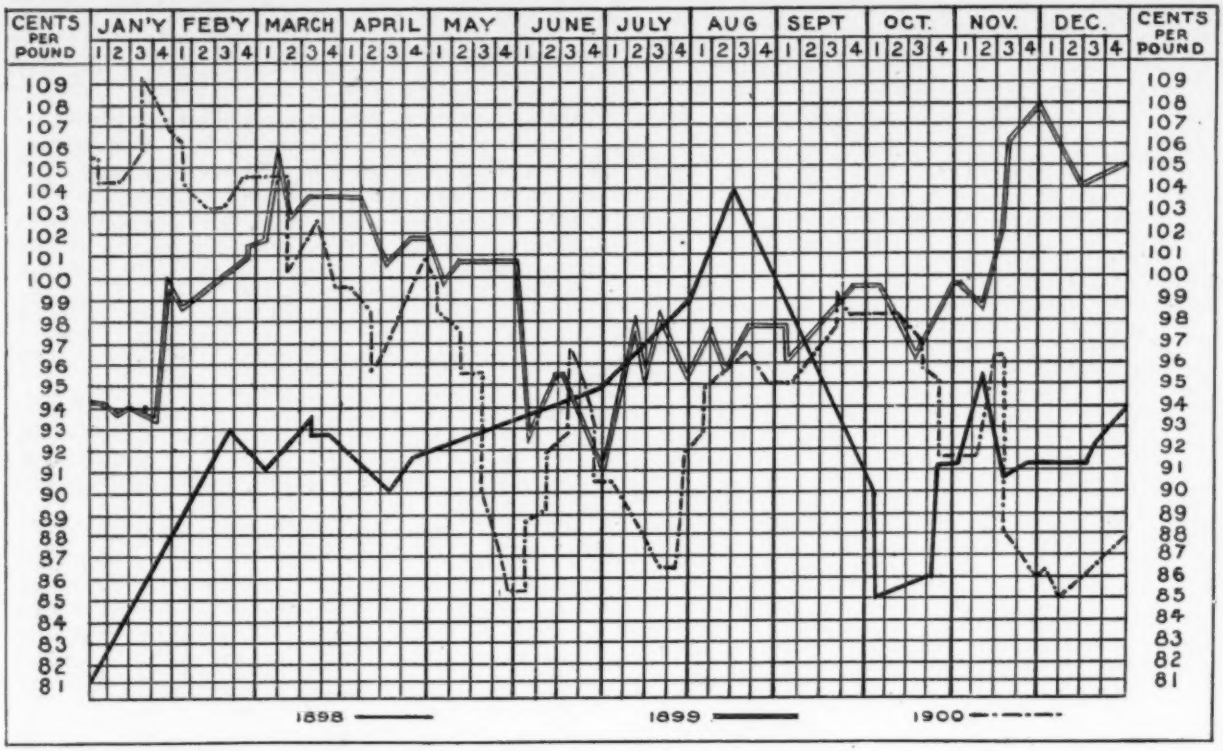
THE table below is intended to show a comparison in the deliveries for consumption between the United States and Canada, on the one hand, and Europe, on the other:

GRADES.	UNITED STATES.		EUROPE.	
	1900.	1899.	1900.	1899.
Parás	12,889	14,494	10,122	8,732
Centrals	1,883	2,182	2,143	1,834
Africans	4,804	6,550	5,821	6,472
East Indian	455	639	849	1,499
Totals	20,031	23,865	18.935	18,537

CONSUMPTION OF INDIA-RUBBER BY THE UNITED STATES AND CANADA (IN TONS).

[From the Annual Statistical Summary of ALBERT T. MORSE & Co., New York.]

DETAILS.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Imports to United States	13,103	13,033	13,554	12,942	14,263	16,152	15,347	16,420	14,643	16,182	14,333	17,671	18,620	23,095	20,468
Exports to Europe	116	201	268	116	231	982	491	714	391	324	500	250	150	300	450
Net Imports	12,987	12,832	13,286	12,826	14,032	15,170	14,856	15,706	14,252	15,858	13,833	17,421	18,470	22,795	20,018
Add Stock January 1	1,286	1,700	1,674	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712
	14,273	14,532	14,960	14,435	14,778	16,430	15,942	16,923	15,289	17,278	14,391	18,062	19,214	23,386	20,730
Less Stock end of year	1,700	1,674	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198
Deliveries to Manufacturers	12,573	12,858	13,351	13,689	13,518	15,344	14,725	15,886	13,869	16,720	13,750	17,318	18,623	22,674	19,532



NEW YORK QUOTATIONS FOR ISLANDS SPOT FINE PARA.

[Copyright, 1901, by Henry A. Gould Co.]

THE CRUDE RUBBER COMBINATION.

A SUBJECT foremost in interest in connection with crude rubber during the past month has related to the reported formation of a combination of importing interests. Referring to rumors about the International Crude Rubber Co., William M. Ivins, of the New York law firm of Ivins, Kidder & Melcher, was reported, about the middle of the month, as saying:

"The International Crude Rubber Co. was organized by my firm under instructions from clients, for the purpose of harmonizing large manufacturing and importing interests, and to secure certain economies in the purchase and shipment of rubber in large bulk from the Amazon under the most favorable conditions as to price and charges. I understand that negotiations are in progress for securing concessions from one of the Amazon states, which I visited some time ago in the same behalf.

"Permanent directors of the company have not yet been elected or determined on, but the company will be under the control of leading consumers and importers. I do not know when it will be prepared to go actively into business, but understand that it will be done as soon as all preliminary contracts are secured."

There have been rumors in plenty as to which of the crude rubber companies, both in the United States and elsewhere, would join the proposed combination, but there has been a paucity of definite information. Following the statement made above was the publication of a report that George A. Alden & Co., the New York Commercial Co., and the Standard Oil interests would not be interested in the International Crude Rubber Co., as at first intended. The next day Charles R. Flint was quoted as saying:

"As to the International Crude Rubber Co., the statement made by Mr. Ivins is substantially correct. As far as the crude rubber supply is concerned, the manufacturing companies will be able to obtain all the crude rubber they desire at low prices, for the reason that, although the business in rubber goods outside of boots and shoes is exceptionally good—the Rubber Goods Manufacturing Company having earned about three times the amount of its preferred stock dividend—the open winter has materially reduced the consumption of rubber boots and shoes, which is a sufficiently large industry to cause a decline in the price of crude rubber."

It is a matter of current gossip in the trade that the reason for the withdrawal of the Standard Oil interests from the support of the movement to consolidate the rubber importing business in the United States is to be found in the failure of the parties interested to promote a consolidation of the rubber footwear interests outside of the United States Rubber Co. There are now fifteen of the "independent" companies. As reported in the last INDIA RUBBER WORLD, negotiations were in progress, about the beginning of the year, to form a combination of at least the majority of these into a new corporation to be known as the Standard Rubber Shoe Co. A series of meetings was held at the Hotel Waldorf-Astoria, in New York, attended by representatives of most of the fifteen companies referred to, but by the evening of January 2 it was rumored that all hope of bringing together so many varied and conflicting interests had been given up as impracticable. On the next day Colonel Samuel P. Colt, whose name had been connected with that of Charles R. Flint, and that of Albert C. Burrage, of the Arcadian Copper Co. (Boston), in the attempt to bring the rubber shoe companies together, was reported as announcing that the deal was off.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS OF AMERICAN RUBBER GOODS.

THE shipment abroad of rubber footwear has continued on a good scale, bringing the total for the past year, as far as reported officially, far above the figures for any previous year. The number of pairs exported during the eleven months January to November, inclusive, during three years past, has been as follows:

1898.	1899.	1900.
355,656	542,042	1,133,473

The total exports from the United States of goods classed as "Manufactures of India-rubber" during the first eleven months of the year were as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Jan.-June....	$262,761	$198,022	$751,171	$1,211,954
July.....	54,965	53,503	110,456	218,924
August.....	42,114	98,761	139,212	280,087
September....	41,764	61,613	116,700	220,077
October.....	42,335	114,979	143,422	300,736
November....	36,959	66,786	140,946	244,691
Total.....	$480,988	$593,646	$1,401,907	$2,476,469
Total, 1899.	(a)	286,713	1,373,609	1,900,340
Total, 1898.	(a)	198,555	1,333,888	1,532,443

(a) Not separately reported prior to July 1, 1899.

Exports of reclaimed rubber from the United States, during the same eleven months, have been in value as follows:

1898.	1899.	1900.
$260,907	$411,687	$481,740

WHERE AMERICAN RUBBER GOODS GO.

EXPORTS classed as "India-rubber goods" at the New York custom house were shipped from this port during the five weeks ended January 1, in value as follows:

Great Britain..	$53,308	Central Amer.	751	Chile.....	720
Germany	14,829	Cuba.....	4,895	Ecuador.....	282
France.....	10,626	Porto Rico....	798	Venezuela	375
Belgium.....	2,042	Haiti.....	55	Australia	18,630
Holland.....	107	San Domingo.	182	New Zealand..	2,028
Austria.....	503	British W. Ind.	1,050	Philippines....	83
Switzerland...	420	Danish W. Ind.	212	China.....	250
Italy.....	73	Dutch W. Ind.	41	Japan.....	1,967
Turkey.....	1,500	Argentina	1,551	British E. Ind.	282
Norway	808	Brazil..... ..	1,049	British Africa.	2,500
Denmark.....	1,105	British Guiana.	35	Portuguese Af.	78
Newfoundland.	733	Dutch Guiana.	32		
Mexico.....	2,013	Colombia.....	397	Total ...	$126,310

Previous exports from New York have been:

Four weeks ending July 31....	$110,391
Five weeks ending September 4	145,541
Four weeks ending October 2.....	94,665
Four weeks ending October 30....	105,614
Four weeks ending November 27.....	122,540

Some other imports to be considered for the five weeks ended January 1 are the following:

Dress Shields.—To Liverpool $907; Southampton $3911; Antwerp $2562; Hamburg $6600; Havre $1622; Genoa $764; Copenhagen $25; total $16,391.

Clothes Wringers.—To London $13,134; Liverpool $968; Hull $144; Glasgow $792; Bristol $94; Hamburg $2633; Bremen $153; Amsterdam $84; Rotterdam $411; Antwerp $677; Copenhagen $679; Christiana $85; Australia $958; Mexico $13; British Africa $14; total $20,789.

India-rubber Thread.—To all ports $26,235.

India-rubber Scrap.—To Glasgow $3812; Hull $117; London $125; Dublin $1015; Liverpool $6021; Manchester $700; Hamburg $400; Havre $4010; total $10,780.

AMERICAN IMPORTS OF RUBBER GOODS.

THE value of the imports of India-rubber and Gutta-percha goods during the first eleven months of each year has been:

	1898.	1899.	1900.
India-rubber goods	$306,087	$424,071	$501,543
Gutta-percha goods.....	116,020	151,828	242,886
Total Imports.....	$422,107	$575,899	$744 429
Reexports.....	80,800	58,081	18,570
Net Imports	$341,307	$517,819	$725,859

It will be seen, by comparing all the figures given on this page, that the annual increase in exports of rubber goods from the United States has been accompanied by an increase in imports at about half the same rate.

DUTIES ON RUBBER FOOTWEAR.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your issue of December 1 we notice with great interest your article on "India Rubber in Commerce," wherein you take exception to the annual report of the Harburg Chamber of Commerce with regard to the amount of custom duty charged on German made India rubber shoes imported into the United States.

While it is perfectly correct that the duty on India-rubber shoes is only 30 per cent. *ad valorem*, yet in the case of wool lined rubber shoes, or shoes composed partly of rubber and partly of felt—arctic boots and shoes, for instance—we know from past experience that the full duty of 44 cents per pound and 60 per cent. *ad valorem* was charged, and was quite prohibitive, but whether there has been any change in the interpretation of the customs laws recently we cannot say.

If there has been no change made, the figures given in the annual report of the Harburg Chamber of Commerce are quite correct, and as the amount of rubbers imported into Germany is a very large and increasing one, on account of the low German tariff in comparison with the American and Russian tariffs, it is evident that the raising of the import duties on rubber boots and shoes is becoming more and more a vital question with German manufacturers of these articles.

Trusting that you will kindly give our letter a place in the columns of your interesting journal, so as to remove any erroneous impression that might be formed, we are, Yours truly,

VEREINIGTE GUMMIWAAREN-FABRIKEN, HARBURG-WIEN.

Harburg-on-Elbe, December 18, 1900.

[IN writing the comments to which reference is made in the preceding letter, we had in mind only the goods most commonly meant when rubber boots and shoes are mentioned in the United States. There is no specific mention of rubber footwear of any kind in the American tariff laws, for the reason, doubtless, that few if any articles of this class are imported here. It is generally considered, however, that such goods would come within the provisions of section 449, which covers rubber goods not elsewhere specified in the law—at a rate of 30 per cent. *ad valorem*. If, however, articles should be imported, containing rubber, but in connection with other materials of manufacture of greater value, the goods would be classed in the schedule relating to such other materials, and the rate for rubber manufactures would no longer apply.—THE EDITOR.]

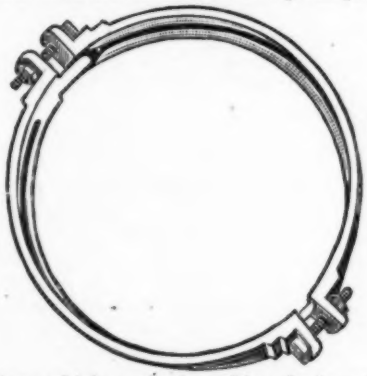
NEW GOODS AND SPECIALTIES IN RUBBER.

SILBAR'S PNEUMATIC LIFE PRESERVER.

THIS article embodies an improvement over the uncouth and unwieldy cork life preservers, now in such general use. It is in the shape of a vest, and may be readily and securely adjusted to the body, with as little trouble as any ordinary article of clothing. Being sleeveless, and fitting the body fairly snugly, the new preserver permits freedom of action, so that it will not interfere with the movements of the wearer, in or out of the water. It is made in two inflatable sections, in order that if one should become punctured, the other, having sufficient buoyancy, may keep the person afloat. The material used is triple warp 10 ounce army duck, lined with an application of Pará rubber, covered with fine woven cotton sheeting, the whole being vulcanized together, which renders it impervious to air and water. The total weight does not exceed four pounds, making it the lightest life preserver in the market, besides which it can be compressed within less space than any other. The under belt or crupper is an essential part of this life preserver. It thoroughly secures the jacket in place, so that in case the fastening straps should break loose, or the buttons become undone, the preserver cannot become separated from the body. The means of securing the jacket in place are the ball and socket buttons, which are intended for use where there is ample time; but in case of emergency, the straps secured to the front of the jacket can be tied. [The Lion Tailoring Co., Milwaukee, Wisconsin.]

DOUBLE HOSE BAND FOR SUCTION HOSE.

THE principle involved in the construction of Yerdon's double hose band for several years past has been applied to a band for the larger sizes of suction hose, with a modification, to the extent that the latter is made in two parts. In these bands the tongues cross the centers, thus making a perfect circle, and making the pressure the same at all points. The band is also grooved upon the inner side, which raises a rib upon the hose which results in making the hose hold closer to the coupling. This new band has been upon the market for only a few months, but is reported to have met with favor wherever used. [William Yerdon, Fort Plain, New York.]



WATER BOTTLES.

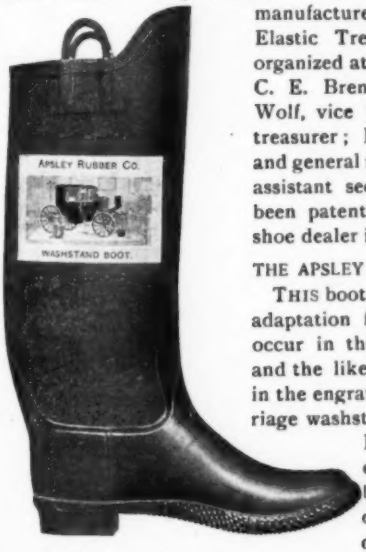
THE engraving shown in connection with this paragraph represents a type of water bottle which is being placed on the market in large quantities by the Boston Woven Hose and Rubber Co. (Boston.) There is nothing particularly new in the details of construction of this article, the illustration being sent to us by the firm named, chiefly to draw attention to the fact that they have taken up on a large scale the manufacture of water bottles of a high grade.

THE "EASY WALKER" RUBBER HEEL.

THE distinctive feature of this heel is the steel holding plate in the base. The plate is adjustable to any heel or heel seat thereby doing away with the necessity of leveling or cementing. The rubber is bound to the heel by this plate, consequently making a perfect joint and preventing foreign substances, such as mud or gravel, from working up into the joints. The holding plate keeps the heel in position until it is worn out, keeps the edges compressed, and makes a neat joint. The "Easy Walker" heel is manufactured by The Springfield Elastic Tread Co., Inc., recently organized at Springfield, Ohio, with C. E. Brening, president; E. E. Wolf, vice president; Henry Voll, treasurer; H. L. Slager, secretary and general manager; T. W. Walker, assistant secretary. The heel has been patented by E. J. Walker, a shoe dealer in Springfield.

THE APSLEY "WASHSTAND" BOOT.

THIS boot takes its name from its adaptation for such conditions as occur in the washing of carriages and the like, and the brand shown in the engraving represents the carriage washstand or floor in a stable. It is light in weight, as compared with rubber boots designed for rough or outdoor work, which quality commends it for any conditions where men are exposed to dampness in their work, while not requiring a heavy boot. [Apsley Rubber Co., Hudson, Mass.]



THE C. R. CO.'S RUBBER TOILET FACE MASK.

THIS is a new article in the way of rubber toilet face masks, made by one of the newer firms in the trade. It is made with a view to conforming to the contour of the face, besides which it is light and soft and pleasant to the wearer. The material, by the way, has incorporated with it desirable medical properties. It is made in three sizes. It is recommended for removing tan, freckles, sallowness, and discolorations. Gloves are also manufactured, in all sizes, of the same material. [Canton Rubber Co., Canton, Ohio.]

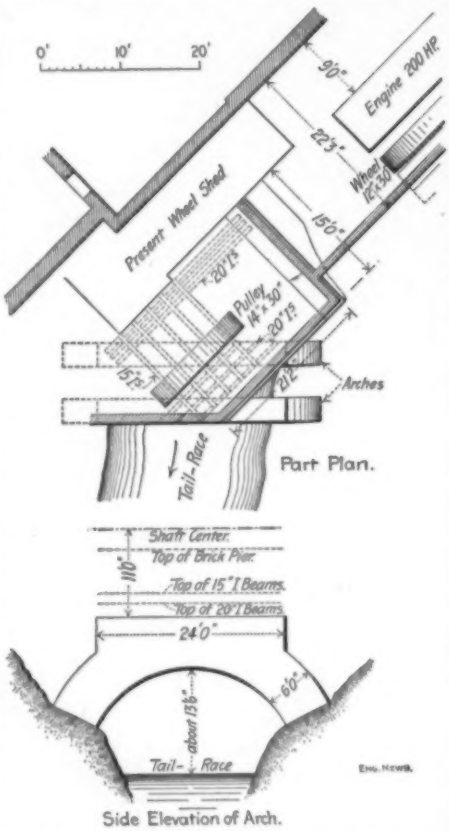
A NOVELTY IN MILL CONSTRUCTION.

THE accompanying illustrations show an ingenious solution of a rather troublesome problem in mill construction, recently made by Charles A. Hague, M. AM. SOC. M. E., No. 39 Cortlandt street, New York, in connection with some extensions of the plant of the New York Rubber Co. at Matteawan. The illustrations and accompanying description are reproduced from *Engineering News* (New York), of November 15.

The very low water in the streams this season has more or less restricted the output of mills and factories dependent entirely upon water power, and the above named company decided to supplement their water power with steam. In order to run the mill either by steam or by water power, or by both together at will, it was planned to belt a Corliss engine to a large pulley mounted upon a quill shaft provided with a friction clutch, and thus to connect the steam power when desired to a jack shaft which passed through the quill and coupled directly to the main shaft of the mill near the point of the water wheel drive. By this arrangement, the throwing out of the friction clutch left the mill completely under the control of the water wheel, and left the engine simply belted to an idle quill shaft and with no connection with the mill.

During the night the dam fills up and full water power is available for a few hours in the morning; but when the water has fallen low enough to cause a deficiency of power, the engine is started, the friction clutch thrown into the drive, and the automatic cut-off of the steam engine controls the exact balance of power necessary to maintain proper speed, while at the same time the mill is utilizing all of the water power that may be available.

A small building had to be provided to enclose and support the quill jackshaft, driving pulley, clutch, and pillow blocks. There was no possible location for this building, however, except directly over a tail race outside the mill. This tail race was located in a sloping channel in rock, about 30 feet below the level of the floor of the main building; and the value and occupation of the floor space within the factory absolutely forbid the placing of the new machinery inside the building. The usual solution of such a problem would be to bridge over the tail race with a heavy masonry arch or tunnel, carrying the masonry up to the floor level. Another solution would be to bridge the race with steel trusses. Both of these methods, however, were rejected as being too expensive, as the peculiar angle and situation of the tail race were extremely awkward for such plans; and the method shown in the drawings was adopted instead. Two light arches of brick, only 3 feet thick, were built across the tail race, its sloping sides forming their skewbacks, and a flat-topped wall, 24 feet long, was built on each side. These walls formed a support for a series of six 20-inch I-beams, three of which, 14 feet long, were laid diagonally across the arches and square with the center line of the jackshaft; the other three beams, 24 feet long, were laid parallel to the first three, from one end of the westerly arch wall to the extension of a pier already in place at the head of the tail race. Across these six beams, and parallel with the center line of the shaft, were laid five 15-inch I-beams, which carry the floor of the building and the brick foundations of the pillow blocks for the quill and jackshafts. A portion of the building wall is also carried on one of the arches, as shown in the drawing.



Partial Plan and Elevation, Showing Method of Supporting Auxiliary Steam Drive over Tail Race, New York Rubber Co.'s Works, Matteawan, N. Y.

The weights of the driving pulley, shafts, pillow blocks, and walls are distributed so as to load the arches as uniformly as possible; and the loads upon the I-beams are reduced to about one-half of the usual allowance for such members. The jackshaft is 8 inches in diameter and 15 feet long; the friction drive is made by a 54-inch Hill clutch; the quill is 13 inches outside diameter and the hole through the center is 8½ inches; the driving pulley, which is the driven pulley from the engine, is 14 feet diameter and 32 inches face; the quill and jackshaft are of forged steel from the Bethlehem Works. The disposition of the auxiliary machinery is such that the entire water power outfit may be removed and refitted while the factory is operated by the steam engine alone, and this was one of the objects in view.

In passing it may be of interest to know that there is a knotty legal problem in water power rights looming up in this neighborhood, on account of an electric light plant some distance up stream, which is idle nearly all day, with its head gates shut, and runs at night when the tail water runs to waste, after filling the dams below. The result is that in a dry season like the present one, the lower powers are short of water during regular daytime working hours, and at night or early in the morning the water runs to waste.

JOHN G. CARTER, formerly of Boston, the inventor of a process for making a substitute for rubber from cottonseed oil, died in the hospital at Savannah, Ga., November 19, after a brief illness. By profession Mr. Carter was a landscape and portrait painter. Several years ago he discovered his oil-rubber process. He went to Boston to enlist capital in his envention; $30,000 was invested in a plant near Greenwich Park. Fire soon after destroyed it, but it was rebuilt, only to be greatly damaged by a storm. Again it was rebuilt and was on the eve of being started once more when death claimed its originator. The process was known only to Mr. Carter, and unless he left written instructions and directions for the continuance of the work it is probable the secret died with him. Details regarding Mr. Carter's work in this connection appeared in THE INDIA RUBBER WORLD of October 15, 1892, and September 15, 1893. The fact that he continued his work up to within a few days past, with little or no financial reward, shows him to have been possessed of the virtue of perseverance under difficulties in no small degree.

NEW TRADE PUBLICATIONS.

THE GOODYEAR VULCANITE CO. (New York) have issued, under date of January 1, a new edition of their Price List of hard rubber combs, made in great variety; syringes, and syringe pipes and sundries. It is liberally illustrated and conveniently arranged. [4⅝″×8⅝″. 56 pages.]

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) have been giving no little attention to the development of a rubber compound suited for horseshoe pads, and likewise to the best form for such pads, with the result that they are now actively marketing a new article called the "Goodyear-Akron Pad," described in an illustrated pamphlet lately issued. [4¼″×6½″. 32 pages.]

J. H. KOHMESCHER & CO. (No. 120 East Fourth street, Cincinnati, Ohio) have ssued the seventh edition of their catalogue of Fine Rubber Goods for the druggists', surgical, and stationery trade. It is illustrated liberally and seems well adapted to promoting a mail order trade. [4⅝″×7¾″. 150 pages.]

BOSTON BELTING CO. send us a catalogue of Rubber Mats, Matting, and Treads for Railways and Steamships, that is attractive and interesting by reason of the variety of styles of goods illustrated. [3¾″×6″. 12 pages.]

AMERICAN HYDRO-CARBON CO. (George A. Alden & Co., selling agents, Boston) send us a series of pamphlets regarding their products, and their application to the rubber industry, which make very interesting reading, including one on the condition of the crude rubber business in the United States.

W. T. GLOVER & CO., LIMITED (Manchester and London), send us a copy of their priced catalogue of Electric Light Wire and Cables, their manufacture of which was referred to at length in our British correspondent's letter a month ago. [4¾″×7¼″. 63 pages.]

CALENDARS.

THE S. S. White Dental Manufacturing Co. (Philadelphia) issue a calendar and memorandum pad combined, which, while intended primarily for dentists' appointments, may serve a useful purpose on any business man's desk.

=James Boyd & Bro. (Philadelphia), jobbers in mechanical rubber goods, send a 1901 calendar and memorandum pad combined, which is both neat and convenient in form.

=Theodore Hofeller & Co. (Buffalo, N. Y.) send us a handsome pictorial calendar for 1901, and also a new edition, for this year, of their "Daily Reminder," which is about as complete a pocket diary, calendar, and reference book, including a map of the United States, as has ever been published.

ALSO RECEIVED.

B. F. STURTEVANT CO., Boston=Illustrated Catalogue (No. 96) of The Sturtevant Steel Plate Steam, Pulley, and Electric Fans. 132 pp. *Also:* The Sturtevant System of Heating, Ventilating, and Moistening Textile Manufactories. (Catalogue No. 66.) 35 pp.

Wirt & Knox Manufacturing Co., St. Louis=Iron Hose Reels. 8 pp.

Alexander P. Mende, Nos. 536-540 West Fourteenth street, New York=Vacuum Drying Apparatus. 14 pp.

The Consolidated Hoof Pad Co., No. 18 Vesey street, New York=List of Pads.] 8 pp.

W. D. Allen Manufacturing Co., Chicago=Mill Supply Specialties [including rubber and allied goods.] 24 pp.

The Empire Time Recorder Co., Cleveland, Ohio=Empire Time Recorders for Employés. 20 pp.

Canton Rubber Co., Canton, Ohio=Seamless Rubber Gloves. 4 pp.

The Hartford Rubber Works Co., Hartford, Connecticut=Hartford Single Tube Carriage Tires for Automobiles and other Vehicles. 16 pp.

William F. Mayo & Co., Boston=Catalogue No. 8—December, 1900. Factory Damaged and Out-of Style Rubbers. 28 pp.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED DECEMBER 4, 1900.

NO. 662,963. Fabric for jackets for pneumatic tires. Edward E. Preston and George D. Kendrick, Leicester, England. assignors of one half to Trion Horace Baker and Albert Hollingworth, same place.

663,104. India-rubber tire for vehicles. Hans C. P. Siversleth, Copenhagen, Denmark.

663,178. Dental dam. Nathaniel Kuns, Santa Monica, California.

663,308. Method of vulcanizing rubber. Gutie H. Tuttle, Montgomery, Ala., assignor to himself, and George M. Bowie, Whitecastle, La.

663,309. Vulcanizer. *Same.*

ISSUED DECEMBER 11, 1900.

663,633. Pneumatic tire. Frank H. Mason, Akron, Ohio.

663,634. Inflatable rubber bag for striking bags or footballs. Harvey F. Mitzel, Akron, Ohio.

663,690. Punching bag exerciser. Alexander A. Whitely and William A. Duncan, New York, assignors to Maude I. Whitely, same place.

663,691. Syringe. Robert N. Barger, Hopedale, Illinois.

663,749. Knee or elbow cap. Frank W. Gorse, Highlandville, Massachusetts.

ISSUED DECEMBER 18, 1900.

663,865. Rubber heel for shoes. William W. Comingor, Danville, Indiana.

663,899. Vehicle tire fastening. William Holmes, Chicago, assignor to Morgan & Wright, same place.

663,898. Device for use in securing rubber tires on vehicle wheels. *Same.*

664,035. Tire for cycles or other road vehicles. Thomas Burrell, North Melbourne, Victoria.

664,067. Lawn sprinkler. James L. Turner, Indianapolis, Indiana.

664,295. Stocking. Charles J. Sadler, St. Louis, Mo., assignor to the Blees Moore Instrument Co., same place.

ISSUED DECEMBER 25, 1900.

664,487. Packing. Charles H. Miller, Philadelphia, assignor to Edward G. Webb, same place.

664,529. Process of regenerating old gum or gum wastes. Carl Brimmer, Munich, Germany.

664,659. Corset shield. Patrick M. Matthew, Edinburgh, Scotland.

664,730. Lawn sprinkler. Ruloff H. Dengler, Detroit, Michigan.

664,748. Retaining band for rubber tires. Edgar A. Hill, Chicago, assignor to the Calumet Tire Rubber Co., same place.

664,766. Armored pneumatic tire. Albert H. Lewis, Midvale, Ohio, assignor, by direct and mesne assignments of three-fourths to Samuel Brannan, Charles Valot, and John A. Newport, Somerdale, Ohio.

DESIGN PATENTS.

33,647. Vehicle tires. Thomas Beech, Freeport, Pennsylvania.

33,691. Horseshoe pad. John H. Ewing, San Francisco, California.

33,763. Air cushion. Christian William Meinecke, Jersey City, N. J., and Daniel Hogan, New York, assignors to the Meinecke & Co., New York.

33,790. Rubber cushion for horseshoes. Martin Logan, New York.

33,791. Metallic plate for elastic tread horseshoe. John B. Gravis, Canton, Ohio.

TRADE MARKS.

35,632. Gutta-percha, Caoutchouc, and rubber, and goods made thereof. Nederlandsche Guttapercha Maatschappij, Hague, Netherlands. Essential feature—A representation of leaves of a rubber plant.

ENGLISH PATENT RECORD.

APPLICATIONS.—1900.

20,311. Oscar Thomas Banks. 49, Mortimer street, Cavendish square, London. Improvements relating to electrical cushions for tables. November 12.

20,328. Hedley Oliver, 4, Danes Inn, Strand, London. Pneumatic tire valve. November 12.

20,329. *Same.* Means for connecting inflators or pumps to pneumatic tire valves. November 12.

20,421. Theodore Holme, Chestal terrace, Dursley, Gloucester. Pads

for horseshoes. [Hans Rasmussen and Henrik Brandt, Denmark.] November 13.

20,431. Albert Sidney Crosby and Jeremiah George Billings, 77, Colmore row, Birmingham. Improvements in pneumatic tires. November 13.

20,452. Edward Cliff and Lyman Denison Jones, 45, Southampton buildings, Chancery lane, London. Improvements in hose reels. November 13.

20,505. Alexander Allardice, 96, Buchanan street, Glasgow. Improvements in pneumatic tire protectors for wheels of cycles and vehicles. November 14.

20,523. William Hulsmann, 1, Westfield terrace, Scarborough. Unbreakable rubber washing buttons. November 14.

20,598. Frederick Pope, 9, Westland road, Dublin. Improvements in rubber tired wheels for vehicles. November 15.

20,648. Julius Quednau, 18, Buckingham street, Strand, London. Improvements in tires for cycles and vehicles. November 15.

20,668. John Collins, 176, Maple road, Penge, London. Invention for repairing covers of pneumatic tires. November 16.

20,689. Martin Dunphy Armstrong and John Dowell, 73, Cheapside London. Improvements in the manufacture of molds for rubber teats. November 16.

20,694. Herbert Sands Groves, 33, Chestnut road, Tottenham, London. Improvements relating to pneumatic tires. November 16.

20,775. Edward Walster and James Walster, 33, Chancery lane, London. Improvements in pneumatic tires. November 17.

20,822. Frederick Westwood, 50, Alcester road, Moseley, Birmingham. Improvements in pneumatic tires. November 19.

20,985. The Avon India Rubber Co., Limited, and Frederick Thomas Swanborough, 55, Chancery lane, London. Improvements in the manufacture of tire covers. November 20.

20,986. Samuel Lane Broom, 40, Chancery lane, London. Improvements in pneumatic tire inflators. November 20.

21,011. Ben Knight Aunger, 38, Victor street, Chester-le-Street, Durham. Detachable section non-slipping tire (intended to be used on wheels for engines). November 21.

21,044. William Alfred Edward Crombie, 37, Marmora road, Honor Oak, London. Improvements in the manufacture of fiberless threads from cellulose. November 21.

21,142. Adolphus Isidore Rath, 35, Bream's buildings, Chancery lane, London. Tires for vehicle wheels. November 22.

21,146. Gustaf Albert Ryden, Wilhelm Achtmeyer, and Carl August Achtmeyer, 111, Hatton garden, London. Improvements in pneumatic tires. November 22.

21,266. Frederick Richards Booth, Bank buildings, George street, Sheffield. Improvements relating to the rims and rubber tires of vehicles. November 24.

21,287. Reiner Baelen, 55, Chancery lane, London. Improvements in elastic packing used in the transmission of pressure in pressure cylinders, compressors, or the like. November 24.

21,307. Wilfred Emerson, 5, Hatton garden, London. Improvements in pneumatic tires for cycles, motor cars, and other vehicles. November 24.

21,396. Anthony Pulbrook and Emily Henrietta Pulbrook, 115, Cannon street, London. Improvements in elastic supports for vehicles. November 26.

21,461. Francis Herbert Awdry, 55, Chancery lane, London. Improvements in pneumatic tires. November 27.

21,477. John Henry Cooke and John Stuart Howard Hammond, 45, Southampton buildings, Chancery lane, London. Improvements in pneumatic tires for the wheels of vehicles. November 27.

21,500. Charles James Croft and Frederick Edmond Dannell, 12, Malpas road, Brockley, London. Improvements in detecting punctures in pneumatic tires. November 28.

21,661. Frank Hulme, 55, Market street, Manchester. A new method and means of producing the air tubes of pneumatic tires. November 30.

21,783. Alfred Dales, 5, John Dalton street, Manchester. Improvements in horseshoe pads. December 1.

21,864. Edward Fairburn, 8, Quality court, Chancery lane, London. Improvements in rubbers for carding engine condensers. December 3.

21,883. Henry Biles, 18, Buckingham street, Strand, London. Improvements in horseshoes. December 3.

21,939. Alfred Henry Wheeler, 107, Deaman road, Sparkbrook, Birmingham. Rubber stencil for use with sandblast machine. December 4.

21,996. Carl August Guido Storz, 45, Southampton buildings, Chancery lane, London. Improvements relating to valves for pneumatic tires. December 4.

22,002. George Schibalcki, Eduard Schibalski, and Theodor Kutschka, 70, Chancery lane, London. Improvements in pneumatic horse collars. December 4.

22,039. Alfred Ducasble, 46, Lincoln's Inn Fields, London. Improvements in pneumatic tires. December 4.

22,055. Walter Leigh Gorst, 15, Water street, Liverpool. Improvements in wheel tires. December 5.

22,135. David John Ryan and Rees Jones, 114a, Chancery lane, London. Improvements in tires applicable to the wheels of motor cars and other vehicles. December 5.

22,219. Alfred Julius Boult, 111, Hatton garden, London. Improvemenls in pencil erasers and in apparatus for manufacture of the same. [La Société Anonyme des Crayons Papier of Paris, France.] December 6.

22,292. William Frederick Williams, 53, Chancery lane, London. Improvements in securing elastic tires to wheels. December 7.

22,322. William Edward Carmont, 166, Fleet street, London. Improvements connected with resilient tires for wheels of road vehicles. December 7.

22,338. Elijah Henry Beal, 27, Fawcett road, Southsea, Portsmouth. A valveless self closing non puncturable tire for bicycles, tricycles, motor cars, and the like. December 8.

22,379. Ernest Alexander Claremont, 4, Bloomsbury square, London. Improvements in apparatus for the manufacture of electrical insulating materials. December 8.

22,384. Frederick Henry Sprang, 53, Chancery lane, London. Improvements in the manufacture of divers' dresses. December 8.

PATENTS GRANTED.—APPLICATIONS OF 1899.

15,255. India-rubber compositions. Gentzsch, A., 1 Stiftgasse, Vienna VII. July 25.

15,421. Pneumatic cushions for heels and soles of boots and shoes. Lingard, W., 54, Lambton quay, Wellington, New Zealand. July 27.

15,462. Metal and rubber tire. Severin, A., Bunde, Westphalia, Germany. July 27.

15,648. Puncture repairer. Stempel, H. S. Van Der, 27, Vondelstraat, Amsterdam. July 31.

15,701. Method of attaching India-rubber tips. Marlow, P. E., and Marlow & Sons, J., Phœnix Shoe Factory, Northampton. August 1.

14,823. Waterproof garments. Muck, J., Meran, South Tyrol, Austria. August 1.

15,878 Rubber horseshoes. Radford, J. F., Westbury on Tyrm, near Bristol. August 3.

16,013. Hose reels. Woods, R.. 33 Fitzclarence street, Liverpool. August 5.

16,344. Pneumatic tires. Attree, G. F., 8, Hanover crescent, Brighton. August 11.

16,507. Rubber tire. Stuart, H. A., "Akroydon," King's road, Reading, Berkshire. August 14.

16,559 Pneumatic tire. Smith, J., Westcroft House, Carshalton, Surrey. August 15.

16,621. Method of attaching pneumatic tire to rim. Jelley J., and Jelley, H., Hill Cross, Coventry, Warwickshire. August 16.

16,702. Rubber heel protector. Dickinson, A., 86, Northgate, Halifax, Yorkshire. August 17.

16,805. India-rubber waste, utilizing. Gubbins, R. R., East Greenwich, Kent, and Loog, H., Brixton, London. August 18.

16,953. Vaginal douches. Frank K., 26, Hohenzollernring, Cologne, Germany. August 21.

17,199. Dental dams. Wittkowski, 15, Friedrichstrasse, Berlin, Germany. August 24.

American Inventions.

15,272. Method of securing rubber tires to vehicle wheels. Hadden, H. J., 18, Buckingham street, Strand, London. [Stewart, F., No. 30 Broad street, New York.] July 25.

15,273. Rubber steps. *Same.*

15,274. Rubber tire. *Same.*

15,275. Method of attaching tire to rim. *Same.*

15,284. Air tubes for pneumatic tires. Smith, M. P., No. 3126 Rhodes avenue, and Kane, T., No. 64 Wabash avenue, both in Chicago, Illinois. July 25.

15,353. Rubber tire. Kinney, F. W., No. 477 Wabash avenue, Chicago, Illinois. July 26.

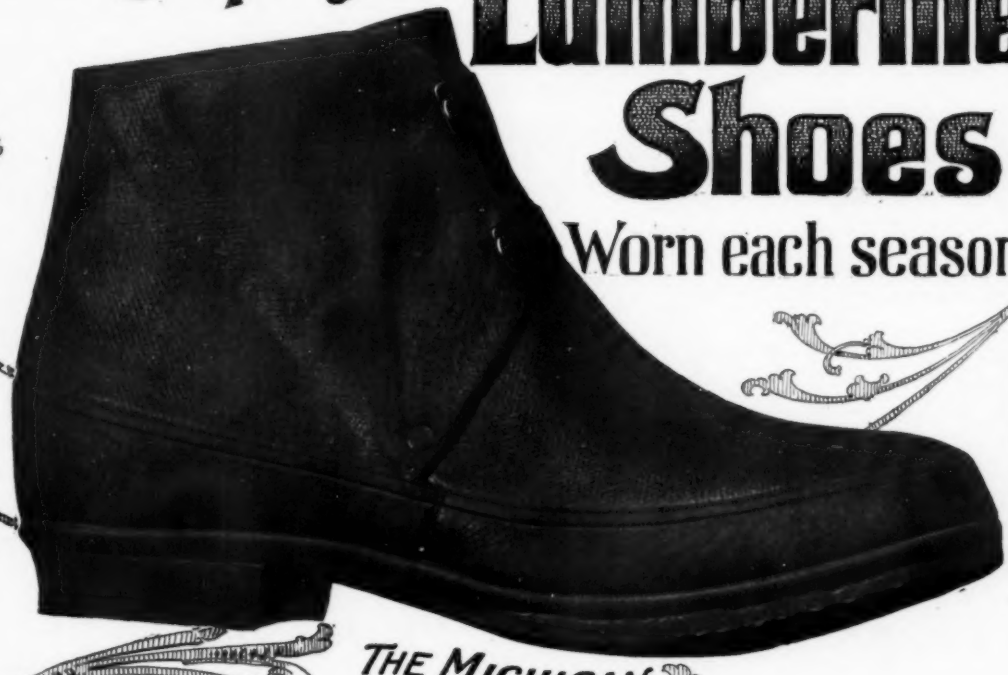
15,430. Pneumatic tire cover. Smith, U. P., No. 3126 Rhodes avenue, Chicago, Illinois. July 27.

There are
Thousands of Pairs
of

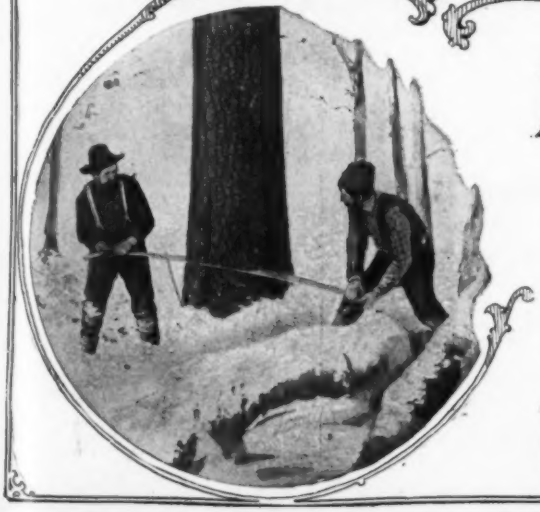
Boston Rubber Shoe Company's

Lumbermen's Shoes

Worn each season.

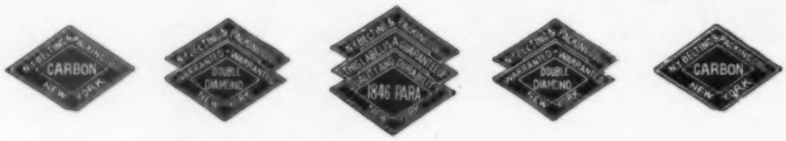


THE MICHIGAN



The Lumbermen buy and carry them into the woods as a ***NECESSARY PART*** *of their outfit.*

There can be no Better Testimony.



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Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing and other rubber goods are guarantees of high quality and long service.

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Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,

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St. Louis,.....411 No. Third St.
San Francisco, 509 Market St.
Boston, ...24 Summer St.
Philadelphia, 724 Chestnut St.

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Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
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THE MECHANICAL RUBBER CO.,

. . . . CLEVELAND, OHIO.

Mention The India Rubber World when you write.

THE RUBBER PLANTING COMPANIES.

A STUDY of the prospectuses of the various companies formed for establishing rubber plantations in Mexico shows some interesting features in regard to their financial plans. As a rule these companies start out with the ownership or control of suitable lands, with perhaps nurseries started, and enough capital for preliminary operations. But a great deal of money is needed for the development of a plantation of from 1000 to 5000 acres, and the plan generally pursued is to offer an opportunity for investment by men who are in comfortable circumstances, but who are unlikely, from their present prospects, ever to acquire very much surplus money. In ordinary fields for investment such men have no chance. But as the money needed for developing a rubber plantation is needed in instalments through a term of years, shares are offered for sale on the instalment plan, with the promise of permanent annual returns after the trees have become productive, by which time the capital needed will all have been paid in. This plan, of course, does not prevent men of large means from investing liberally, and some such have done so.

The plan of the Tehuantepec Rubber Culture Co. is as follows: They offer interest bearing improvement bonds, to be paid for in annual instalments, each of which, when the payments have been completed, entitles the holder to one share of stock in the company. When the bonds have been retired, out of the profits of the company, the ownership of the plantation will be in the hands of the stockholders, who will share in the profits of the business in proportion to their holdings. A trust company in New York has been made trustee for the bondholders, and an arrangement made with a life insurance company for insuring the lives of investors, and protecting the investments of any who may not live to complete their payments.

The Ubero Plantation Co. of Boston offer their shares, to be paid for in monthly instalments, the money to be deposited with a trust company, to which a deed of trust of the property in Mexico has been made. The investor receives a certificate of deposit on making each payment. When the payments on any share have been completed, the trust company will transfer to the plantation company one acre of land, and to the investor his share of stock. From the beginning the investor holds a contract with the plantation company, binding the latter to plant a certain amount of rubber and other crops, and to keep the same in good condition, and the trust company is not to make any transfer of land to the company until the planting contract shall have been complied with.

La Zacualpa Rubber Plantation Co. offer shares on the monthly instalment plan, which entitle investors to share in the profits of the company after the trees now being planted are productive, each share entitling the holder to an undivided acre of the plantation, on which the company is under contract to plant and care for 200 rubber trees. There are also a certain number of shares offered for cash, bearing interest, to be provided for from the sale of rubber from productive trees already on the plantation. In the case of death of an investor before payments are completed, the company guarantee to cancel the unpaid instalments and deliver to his heirs full paid shares.

One company states that it owns 25,000 acres of land, of which it proposes to improve only 5,000, the proceeds from sales of any of the remaining land to be shared by the stockholders. In some cases it is proposed to plant only rubber, while other companies undertake to grow coffee, pineapples, vanila, etc.

It is impossible, from any analysis of the numerous prospectuses of planting companies now selling shares and bonds, to figure out the total investment in rubber planting that would be involved in the success of their plans, (1) because so many of the companies do not confine their operations to rubber alone, and (2) because the success of the companies is not meant to be contingent upon the sale of all their shares. Hence, a company having 5000 acres of lands, and offering a $300 share for every acre, would raise $1,500,000 of capital by the sale of all their stock, and yet might begin and carry out their plans if only half, or less, of the shares were sold, confining their work to a fewer number of acres. It may be mentioned, however, that THE INDIA RUBBER WORLD is assured that more than one company recently has succeeded in effecting sales of all their stock—though of course only the initial payment has as yet been made on many shares—and there are indications that the investments thus described amount to many millions of dollars, which may be ascribed to the interest in the United States in rubber planting alone.

There are some planting prospectuses, by the way, that are self-condemnatory, on account of the reckless promise of impossible rates of profits. One such document promises a 5 per cent. dividend the first year, on the amount actually paid in by the investor, increasing to 7 per cent. the second year, and then to 10, 15, 20, 35, and 50 per cent. dividends, the latter figure being reached in the seventh year. As figured out in this prospectus, not only would the shares have cost the investor nothing by the end of the seventh year, but he would have more money than the amount of his investment. All of which, of course, is nonsense.

ONE INTENDING PLANTER DISCOURAGED.

TO THE EDITOR OF THE INDIA-RUBBER WORLD: It may interest your readers to know that our Mr. Thomas A. Scott has just returned from Mexico and Nicaragua, where we sent him, at quite a heavy expense, to thoroughly investigate and report on our scheme to start a rubber plantation in the latter named country.

Mr. Scott's report was most encouraging in the main, and the fact that we would have had $100,000 in the scheme before it matured did not stagger us in the least, although we had hoped it would not require so much. We almost voted to go into it, and would have done so but at a crucial moment our Mr. Chisholm put a staggering question that turned the tide against the scheme.

The question was "Suppose our man in charge should happen to get ill or die before the scheme matured—what then?" This was absolutely the only question that Mr. Scott failed to report favorably upon. The gentleman whom we had selected to take charge was an old Bostonian resident of Nicaragua, aud our investigation of him was simply unimpeachable, but to replace him, in case of the contingency above named, was a problem that neither Mr. Scott nor any of the rest of us could solve.

With so much money invested and no manager, short sighted as it may appear, was something that had never occurred to us. Our Mr. Scott candidly admitted that he would never undertake to find another director of affairs and with eight years of chances to encounter, this was a stumper.

Mr. Scott's report was most exhaustive, and would fill a book, and it was conclusive as to prospective profit, but withal he admitted that he would not stay down there himself for more than one month out of the year if we would give him the plantation. Probably the most striking feature of the report was that it was clearly idiotic to expect profitable results to begin to accrue short of eight years, but these results would be colossal after that time.

After all, is this not the whole trouble and the reason that so many similar enterprises are either failures or are for sale? The country is not on an industrial basis which would warrant any risk of capital. ROBERT P. SCOTT.

Office of the Sinclair-Scott Co., Baltimore, December 22, 1900.

SAN PEDRO RUBBER PLANTATION CO.

[Amuy-Pa plantation, department of Palenque, state of Chiapas, Mexico. Office: Uihlein building, Milwaukee, Wis.]

INCORPORATED October 11, 1900, under Wisconsin laws; capital, $100,000. Officers: George W. Peck, late governor of Wisconsin, president; Charles E. Raymond, vice president; Joseph R. Kathrens, treasurer; Richard D. Kathrens, secretary and general manager; William H. Alton, plantation manager. Own 18,533 acres in the department of Palenque, on the Tulija river, which enters the Mexican gulf at Frontera. It is proposed at first to improve 3000 acres, known locally as the "Amuy-Pa" tract. A nursery has been formed, with 500,000 rubber plants. The capital is all paid in, and the company offer for sale a "special rubber harvest certificate," on the instalment plan, entitling the holder perpetually to the profits on one acre of cultivated rubber after production begins.

NICARAGUA CO.

[Pearl Lagoon, Pearl City, Nicaragua. Offices: Dayton, Ohio.]

INCORPORATED in New Jersey, June 4, 1900; authorized capital, $1,000,000. Officers: F. D. Bittinger, president; H. L. Jacobs, vice president; O. N. Vincent, treasurer; C. H. Dye, secretary. The outgrowth of the work of the Messrs. Bittinger, of Dayton, Ohio [see THE INDIA RUBBER WORLD, June 1, 1900, page 247], who have formed a plantation of tropical fruits, with 16,000 rubber trees. The prospectus of the new company refers to an intention of increasing the rubber plantation to 850 acres. They have acquired 5100 acres of land within forty miles of Pearl City, and offer shares at $1.

LEAVENWORTH AND MEXICO AGRICULTURAL CO.

[State of Vera Cruz, Mexico. Office: Leavenworth, Kansas.]

GROWERS of coffee, rubber, and tropical fruits. Incorporated under Kansas laws. Officers: William Small, president; Adolph Lange, vice president; C. S. Moak, secretary; James Foley, treasurer; D. F. Thomas, superintendent. Estate of about 2000 acres, "just above" the "Dos Rios" plantation. Reported to have planted 250,000 coffee rubber, and vanilla trees. D. A. Hook, in charge of the planting work, is planning to introduce from Peru the coca plant, from which cocaine is produced. Mr. Lange, named above, is a wholesale druggist who hopes to establish in the United States the extraction of cocaine from the coca leaves—an industry confined hitherto to Germany.

PLANTING COMPANY PUBLICATIONS.

THE Tehuantepec Rubber Culture Co., New York=(1) Proposal. 36 pp. and maps. (2) Rubber, the Handmaid of Civilization. By E. L. Peritara. 23 pp.

San Pedro Rubber Plantation Co., Milwaukee, Wisconsin=(1) Something About the Company. 29 pp. (2) The Original Report—on the character of the company's estate. 16 pp. (3) The India-Rubber Tree and the Possibilities of Its Culture in Mexico. 20 pp. (4) Is the Young Man Absalom Safe? 16 pp. (5) Great Oaks from Little Acorns Grow. 12 pp.

LITERATURE OF INDIA-RUBBER.

KOLONIAL-WIRTSCHAFTLICHES KOMITEE. WESTAFRIKANISCHE Kautschuk-Expedition. (R. Schlecter). 1899-1900. Berlin: 1900. [Cloth. 8vo. pp. viii + 326 + 13 plates. Price 12 marks.]

TO German enterprise must be given the palm, thus far, for the most thorough and comprehensive study of the rubber planting question, the reason for which is to be found in the desire of the imperial government to develop as fully as possible the resources of the German colonies in Africa. As these lie within the limits of the rubber belt, and as valuable rubber species are already being utilized in them, it is but natural that than an interest should be expressed in the further development of these resources. In the same connection the matter of introducing the culture of other valuable species of rubber has been taken up. In the handsome and substantial volume before us is recorded the experiences of Rudolf Schlecter, an eminent German botanist who has become recognized as a rubber expert, in visiting the German West African colonies of Kamerun and Togo, with a view to preparing for the planting of both native and foreign species. The first result of Herr Schlecter's work has been a fuller knowledge than existed before regarding the location and extent of the rubber supplies of German Africa, together with much new information regarding its botany in general. Regarding the further results of his work, the Kolonial-Wirtschaftliches Komitee—which may be regarded as a semi-official body—express the highest satisfaction. Several companies have been formed already, to plant rubber on a large scale, as well as engaging in colonial trade. Besides having the official support of the department for the colonies of the German foreign office, and the colonial administrations of Kamerun and Togo, the committee give special credit for financial aid rendered to the rubber expedition by his Highness Johann Albrecht, duke regent of Mecklenberg-Schwerin. But what is of special interest is the mention in the report of the assistance afforded by the leading rubber manufacturers in Germany, no less than twenty-one of whom are mentioned by name, besides large electrical concerns, chambers of commerce, large commercial companies, etc. The Harburg-Vienna, Berlin-Frankfort, Continental, and Harburg Rubber Comb companies, Franz Clouth, Alfred Calmon, and Felten & Guillaume are among the firms mentioned, and also the Russian-American India-Rubber Co., of St. Petersburg.

HISTORY OF THE CLINCHER TYRE AND RIM. BY FRANCIS J. J. Glynn. Published by North British Rubber Co., Limited, Edinburgh. [Paper. 12mo. pp. 63.]

THE record of the development of the rubber tire industry is still confined, in large part, to the field of manufacturers' and dealers' trade publications, each devoted solely to descriptions and praises of a single tire or class. While the book before us is intended primarily for advertising the article named in the title, it varies so widely in general character from the usual tire pamphlets, as to deserve a place in any library devoted to India-rubber and its applications. The value of the book, aside from the fact that it appears to be accurate in details, is in pointing out the sequence of the various patents and developments in relation to cycle tires in Great Britain, with references to infringement suits and the like which are explicit enough to guide one who desires to look further into the study of the whole subject.

IN CURRENT PERIODICALS.

CABLE Laying in Arctic Waters. By George F. Porter. [Story of the laying of the St. Michael-Cape Nome cable, made by W. F. Brixey of New York, and the wreck of the cable ship *Orisaba*; illustrated]=*Electrical Review*, New York. XXXVII-23 (December 5, 1900.) pp. 598, 599.

NEWS OF THE AMERICAN RUBBER TRADE.

DIVIDEND OF THE UNITED STATES RUBBER CO.

AT a regular meeting of directors of the United States Rubber Co., in New York, on January 3, a dividend of 1 per cent. on the preferred stock was declared, payable January 31, out of the earnings for the fiscal year beginning April 1, 1900, this being the second quarterly dividend for the business year. The third and fourth quarterly dividends for the preceding business year were paid April 30 and July 31, respectively. The amount to be disbursed, by the new dividend payment, is $235,255, bringing the total thus far for the year to $705,765, against $941,020 for the same period last year. Besides, by January 31 last year had been disbursed three 1 per cent. dividends on the common stock, out of the current year's earnings, or a total of $709,980 on the common stock. Recent Stock Exchange prices for United States Rubber shares have been:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending Jan. 5	90,550	34	23	18,395	85	70
Week ending Jan. 12	27,835	24¼	19⅛	15,452	69	60½
Week ending Jan. 19	12,970	21⅞	19½	4,900	63	59¼
Week ending Jan. 26	8,850	23¾	21	4,200	64¾	60

The trading in shares during 1900 amounted as follows: *Common*—502,377 shares; highest, 44 on January 2; lowest, 21 on July 6. *Preferred*—90,924 shares; highest, 104¾, January 3; lowest, 77¼, December 8.

THE NEW PRICES ON RUBBERS.

AFTER having been kept in suspense for several days by the gossip relating to a prospective cut in prices on rubber footwear, the trade was much relieved by the appearance of the following circular, the substance of which is that the United States Rubber Co.'s prices are put back on the basis of last summer, the extra discount of 5 per cent. being made effective until the close of the business year:

United States Rubber Co., 9 to 15 Murray street.
New York, January 3, 1901.

GENTLEMEN: We beg to notify you that a reduction of five (5) per cent. from existing prices will be made you till further notice on all shipments of rubber boots and shoes, subsequent to January 3, 1901, and that a rebate of five (5) per cent. will be made to you on all our rubber boots and shoes shipped you between October 16, 1900, and January 3, 1901, both inclusive.

Referring to our conditional offer to purchasers, would say that a corresponding reduction may be made on sales by you to the retail trade after January 3, 1901.

Otherwise prices, discounts and terms will remain the same as under existing contracts until further notice.

We are prompted to take this action at this time instead of making a more marked reduction in prices as was contemplated, owing to the fact that up to date there has been so little consuming weather for rubber boots and shoes, which has prevented the usual free distribution of goods.

In view of the above discount being made in place of those contemplated when we notified you on December 20, 1900, regarding combinations, we have decided until further notice to continue the sale of them to you, at prices that prevailed December 31, 1900. Terms of payment, sixty days from date of invoice. You may resell them to the retail trade, until further notice, at same prices that prevailed on December 31, 1900, net, thirty days.

It is moreover our intention to announce at an early date, important modifications to the above in prices and terms on all our lines of rubber boots and shoes; which will, we trust, commend themselves to the trade in general. Respectfully yours,

UNITED STATES RUBBER CO.

Clearly it would have been very upsetting to the trade had any such reduction been made, in midwinter, as 25 per cent.—a figure at one time reported in the newspapers as actually having been made. It will not be long now, however, to April 1, and already jobbers and retailers—as well as the "independent" companies—are regarding with deep interest the possibility that a radical revision of discounts may be made by the United States Rubber Co. Meanwhile the newspapers are not idle. For example a press dispatch from Boston dated January 15 announces a cut of 18 per cent. as due on February 1, but such anonymous announcements are not likely to have weight in the trade.

THE STANDARD RUBBER SHOE CO.

IT appears to be conceded in the trade that nothing will come of the negotiations which were on foot at the beginning of the month just past, for bringing under a single control, under a company to be named as above, a majority of fifteen rubber factories now operated independently of the United States Rubber Co. Charles R. Flint, whose name had been connected with the movement to bring about the combination, was quoted in the newspapers, after the attempt seemed likely not to succeed, as saying that, while ample money was available to handle the situation, the basis desired for the proposed consolidation was regarded by the banking interest as an inflated one. The rubber boot and shoe business, generally, he said, has suffered very seriously from the open winter of last year, and the exceptionally open winter this year. The result is that the total volume of business has been reduced, and it is, therefore, natural that competition, in absence of any arrangement, should become more intense to secure the reduced volume. It is hardly worth while to mention the various rubber shoe men whose names were mentioned in connection with the proposed new shoe combination, since it is certain that even some of those who consented to attend the meetings in New York had little idea that any terms would be arrived at which would induce them to join the movement. The fifteen rubber shoe companies now maintaining a corporate existence independent of the United States Rubber Co. are:

Apsley Rubber Co. ..... Hudson, Mass.
Joseph Banigan Rubber Co. ..... Olneyville, R. I.
Beacon Falls Rubber Shoe Co. ..... Beacon Falls, Conn.
Bourn Rubber Co. ..... Providence, R. I.
Byfield Rubber Co. ..... Bristol, R. I.
Concord Rubber Co. ..... Concord Junction, Mass.
Goodyear Rubber Co. ..... Middletown, Conn.
Grand Rapids Felt Boot Co. ..... Grand Rapids, Mich.
Hood Rubber Co. ..... Watertown, Mass.
Lambertville Rubber Co. ..... Lambertville, N. J.
Milltown India Rubber Co. ..... Milltown, N. J.
Mishawaka Woolen Manufacturing Co. ..... Mishawaka, Ind.
Model Rubber Co. ..... Woonsocket, R. I.
Monarch Rubber Co. ..... St. Louis, Mo.
George Watkinson & Co. ..... Philadelphia, Pa.

Gossip has it representatives of thirteen of these companies were invited to attend the conference held at the Hotel Waldorf-Astoria, in New York. Previously thirty-day options had been obtained on several of the plants, but these were allowed to lapse without further effort after the meetings.

WESTERN RUBBER SHOE CO. OF CHICAGO.

ARTICLES of incorporation of the Western Rubber Shoe Co. of Chicago were filed January 3 in the office of the secretary of state of New Jersey. The incorporators are George B. Power and Elias Meyer, of Chicago, and George W. Flaacke, Jr., the latter being named as the agent for the company in New Jersey, at the office of the Lawyers' Incorporation Co., No. 1 Montgomery street, Jersey City. The amount of capital authorized is $1,000,000. The object of the new corporation is "the making, purchasing, and selling rubber boots and shoes and all goods of which rubber is a component part, and the various materials entering into the manufacture of any and all such goods."

None of the names mentioned is identified with the rubber shoe trade. In the Chicago newspapers Alderman Milton J. Foreman, of that city, has been quoted at length in relation to the plans of the new company, of which he is described as the attorney. One of his published statements was to the effect that $1,000,000 had been deposited in a Chicago bank to form the capital of the company; that the owners of the money were ready to increase the amount to $5,000,000 as soon as the business justified the step; that options had been secured on two properties near the city, on one of which the factory would be located; that the production would begin with 5000 pairs of shoes per day; that contracts had been made for two years' supply of crude rubber; that negotiations were in progress with two of the leading jobbing houses in America—one in Chicago and one in New York—to handle the product of the company. Speaking of the "rubber trust" Mr. Foreman is reported as saying [Chicago *Times-Herald*, January 4]:

"With all their care they overlooked one large quantity of crude rubber, which we have now secured, and which is sufficient to keep us running for years. One of the first steps in the organization of the new company was to secure this supply of rubber."

HARDMAN RUBBER CO.

THE Hardman Rubber Co. (Belleville, New Jersey) have purchased the property and good will of the Riverside Rubber Co. The change is practically in name only, the Messrs. Hardman, who comprised the Riverside company, wishing to have their names identified more closely with the business. Besides, many of their products have been branded with the name "Hardman," so that the change is easily accomplished. The same management and methods will be continued, and the capital and facilities of the company have been enlarged. The Hardman Rubber Co. have been incorporated in New Jersey with $100,000 capital, which is larger than the former investment, and they begin operations under the new arrangement in an entirely new factory, fully equipped with modern appliances. The new factory embraces 50,000 square feet of space, and has installed a new 225 horse power Corliss engine and four 100 horse power boilers. The company make the hard rubber and the metal parts used in their druggists' sundries, and also their paper boxes, besides doing their own printing. The officers of the Hardman Rubber Co. are J. Hardman, Jr., president; J. Harry Hardman, vice president; John C. Hardman, treasurer; and Silas Schwerin, secretary. The Riverside company was established by J. Hardman, Jr., in 1878, and incorporated in 1890.

THOMSON-GLASKIN CO. (DULUTH, MINN.)

THIS is a new wholesale concern, incorporated last month, handling leather, rubber and cotton belting; mill, mining, and railroad supplies; cordage and wire rope; and fire hose. A. D. Thomson, president, is a wealthy business man of Duluth, largely interested in grain elevator and transportation interests. T. H. Glaskin, vice president, has been for several years past the Duluth representative of the W. S. Nott Co., an important rubber jobbing house in Minneapolis. H. G. Hilliard, secretary and treasurer, has been a traveling man for twelve years past. The capital of the company is $100,000. They will employ travelers throughout northern Minnesota, northern Michigan, Wisconsin, North Dakota and South Dakota. Duluth has become a jobbing center of importance, and the connection of Mr. Thomson with the new company insures a valuable line of connections from the start, besides which the other members of the company have a wide acquaintance with the field to be covered.

FRANK C. HOWLETT.

THE subject of this sketch, who has become an important figure in the rubber jobbing trade in western New York, and the outside territory supplied from there, is a native of Cambridge, Massachusetts. He early became interested in the rubber trade, starting to work, on leaving school, with the American Rubber Co., located in his native town. In 1874 he went to Syracuse, New York, with H. B. Hall—son of the late H. A. Hall, one of the leading men in the rubber goods trade in his time. After a time Mr. Hall took a partner, the firm becoming Clary & Hall, and later sold out to Mr. Clary. Mr. Howlett remained with the house until 1881, when he went into the rubber business in Syracuse on his own account. In 1882 he opened another store in Rochester, under the name of Howlett Brothers. The business at Rochester grew from the start, and a few years ago the firm were obliged to move into larger quarters. But the Syracuse business has been particularly successful. In 1890 it moved into larger quarters, and, after continually adding store rooms, in the spring of 1900 Mr. Howlett bought the building which he now occupies, and remodelled it, making a five story building, in which he now has one of the best wholesale and retail rubber goods stores in the United States. About six years ago Mr. Clary decided to retire from business, and Mr. Howlett purchased his stock. In 1896 Mr. Howlett, finding that he could not operate the western trade so well from Syracuse, opened a third store in Buffalo. A corps of traveling men is sent out from each store, and the territory adjacent to each is kept pretty well covered.

F. C. HOWLETT.

WARNING TO HOSE COUPLER USERS.

MAKERS, venders, and users of hose couplings, unions, sleeves, etc., are warned by the Benedict & Burnham Manufacturing Co. (Waterbury, Conn.) against infringing certain patents, now owned by them, said patents having been granted to James G. Hallas, and bearing numbers 440,844–454,647–454,648–454,649–511,138. It is alleged particularly that said patents are infringed by couplings now being placed upon the market by The H. B. Sherman Manufacturing Co. (Battle Creek, Mich.)

VICTOR RUBBER CO. (SPRINGFIELD, OHIO.)

THE plant of this company is exceedingly well situated on both the Erie and Big Four railway lines, and is also close to the inter-urban electric lines that run an express service down from the city of Springfield. The plant is of brick and is built on the banks of a busy stream known as Mad river. It is equipped in modern fashion with a Hamilton Corliss engine of 425 horse power, and three boilers that develop about 500 horse power. Both boiler and engine power are being rapidly outgrown, however, and a larger equipment will shortly be installed. The rubber machinery consists of one washer, seven large grinders, one calender, two belt presses, four large vulcanizers, four Knock presses, and two Boomer presses. In addition to this there are tubing and many minor machines. The plant has its own dynamo and lighting plant, automatic fire alarm system and machine shop, the factory being heated and ventilated by a hot air system installed by the Buffalo Forge Co. The factory offices are elegantly fitted up. While the main business of the company, of course, is the manufacture of the well-known Victor vehicle tires, they also do a large business in small mold work, mats, matting, treads, etc.

THE NEW FIRM AT WATERTOWN.

THE factory formerly known as the Rand-Wayne plant in Watertown, Mass., as stated in the last INDIA RUBBER WORLD, is now leased by F. N. Woodward & Co., and running on mold work and specialties in the line of mechanical rubber goods. In introducing the members of the above named company to the trade, we are fortunate in being able to give good likenesses of two of them. Mr. F. N. Woodward will be at once recognized as a man who has had long rubber experience. A brother-in-law of the late E. H. Rand, and a capable millwright as well as rubber man, he assembled and set up the machinery at the Newton Rubber Works at Newton Upper Falls, and filled the position of superintendent. Later, when the plant was purchased by the International Automobile and Vehicle Tire Co., he remained in the same position. In the new company, which bears his name, he is taking an exceedingly active part, managing both the manufacturing end and overseeing the selling as well. In the factory he is assisted by his son, who holds the position of assistant superintendent. The second likeness is that of Mr. J. Henry Baird, the surname being one that is well known and much respected in the rubber trade. Mr. Baird was formerly assistant superintendent in the car shops of the New York and Ontario railroad at Middletown, N. Y. With thirty years' experience in machine work, as well as in carpentry, building, and construction, he is eminently fitted to look after the machinery and buildings in the new concern. It is interesting to note that although the company is but young in the business, they are making preparations already to run nights.

F. N. WOODWARD.

J. HENRY BAIRD.

READING RUBBER MANUFACTURING CO.

AT a recent meeting of the directors of this company, at Reading, Mass., it was voted to increase the capital 50 per cent., for the purpose of building an addition to their present brick factory, 350×60 feet. A large portion of the new extension will be leased to the Sanford Mills Co. for the manufacture of Chase leather, which has been described in THE INDIA RUBBER WORLD. B. T. Morrison, treasurer and manager of the Reading company, will be manager also of the new enterprise.

MISHAWAKA WOOLEN MANUFACTURING CO.

THE annual banquet of this company to their traveling salesmen was given on the evening of December 31, at the Oliver House, South Bend, Indiana. It is the custom of the company to call their agents together at the end of each year for a week of instruction, when there is held a sort of teacher's institute, the more experienced salesmen being designated as instructors for the others. At the banquet it was announced by an official of the company that overtures had been made for the purchase of their rubber business, but that the factory would continue to be run independently.

BALL OF THE HOOD FACTORY'S EMPLOYES.

THE second yearly concert and ball of the shoe inspectors at the factory of the Hood Rubber Co. was held at Union Hall, Cambridgeport, Mass., on the evening of January 4. The concert was given by the Cambridge Cadet Band, after which Mrs. Lizzie Beals, president of the shoe inspectors' association, welcomed Mr. Richard M. Pearce, foreman for the company, in behalf of the association. Mr. Pearce then introduced the invited guests, including most of the officers and directors of the Hood Rubber Co. and their wives. Mr. Pearce acted as floor manager and Mrs. Beals was floor director, and led the grand march with Mr. Thomas Hannon. The march was a very elaborate affair, and was followed by dancing to a late hour, in which a large number of the company's employés took part, many of the ladies being very stylishly and handsomely gowned.

GOSHEN RUBBER CO. (GOSHEN, IND.)

AT a meeting of stockholders on January 9, the following directors were elected: C. M. Bailey, W. A. Hoops, A. McDonnell, John Smith, and H. M. Zerhung. W. A. Hoops was elected president; A. McDonnell, vice president; H. M. Zerhung, secretary and treasurer. Mr. Hoops is a Chicago man who recently has acquired an important interest in the stock of the company, and will shortly remove to Goshen.

KOKOMO RUBBER CO. (KOKOMO, IND.)

THE plant of this company has been more than doubled within the last two years, and is to-day one of the best of its size in the middle West. It is of brick and is equipped with a 250 horse power Corliss engine, an 80 horse power gas engine, a Westinghouse electric lighting plant, and five boilers of 100 horse power each. The rubber equipment consists of a washer, eight grinders, a calender, tubing machines, and especially constructed tire presses.

RUBBER STAMP TRADE.

AN improved condition in this line is reported by *The Commercial Stamp Trade Journal* (Chicago), in respect to steadier

prices and the use of better rubber compounds than in some former years. The value of the total business in the United States and Canada for the year, estimated upon a basis of partial returns, is placed at $275,000. There has been a growth in the demand for solid rubber type and price markers, and an improvement in the quality of goods produced, the total value of which for the same territory as above is estimated at $130,000 for the year—making, with rubber stamps, a total of about $405,000.

BULKLEY WEBBING FACTORY SOLD.

THE elastic web factory of J. H. Bulkley & Son (Norwalk, Conn.), offered at trustees' sale on January 3, was bought by Frederick T. Ryder, treasurer of the Easthampton Rubber Thread Co., for $2600, subject to the approval of the referee in bankruptcy. The property is subject to a mortgage held by the Easthampton company.

RUBBER BAND LISTS WITHDRAWN.

THE prices of rubber bands have been so cut by new manufacturers of these goods, that the market is in a very unsettled condition and all lists have been withdrawn. The conditions which have led to this action, however, have not extended to any other lines produced by the members of the Druggists' Sundries Manufacturers' Association, and no change has taken place in the composition or policy of that body.

TIRE LITIGATION IN ATLANTA.

ON January 8, in the United States circuit court at Atlanta, Georgia, Judge Newman rendered a decision on a motion for a preliminary injunction prayed for by the Mumford Rubber Tire Co. against the Finley Rubber Tire Co., in a suit for infringement of patent on solid carriage tires. The tire handled by the former company is the "Kelly-Springfield," while the latter company handles the "Goodyear" tire, made at Akron, Ohio. In view of the fact that final hearing on the main case on its merits is expected to take place in a short while, the application for preliminary injunction was refused. The court held that "the defendant, the Finley Rubber Tire Co., should give a bond in the sum of $10,000 to indemnify the complainants against any damage which they may sustain in the event they should, on final hearing, obtain a decree in the case. The Finley Rubber Tire Co. will also be required to keep an account of all rubber tires hereafter manufactured and sold by them, and file the same in the clerk's office in this case for use should the same be necessary on final decree."

The Atlanta *News*, of January 9, says: "Judge Shelby's order on the cross bill restraining the Consolidated Rubber Tire Co. [the licensees of the Mumford Rubber Tire Co.] as to the suits against the agents and customers of the Finley company is continued in force." The original litigation referred to grew out of disputed accounts between the Goodyear Tire and Rubber Co. as manufacturers of tires under contract for the Rubber Tire Wheel Co., later incorporated in the Consolidated Rubber Tire Co.

MANUFACTURED RUBBER CO. (PHILADELPHIA.)

THE progress that Mr. Charles W. Sloan, manager of this company, is making in the manufacture of his substitutes is really notable. The new plant at Metuchen, New Jersey, is rapidly being put in shape for manufacturing on a large scale, and high grades of both black and white substitutes are now being turned out. The attention to detail which Mr. Sloane is paying, is seen for example, in the fact that he is distilling his own chloride of sulphur, in order to have a perfectly pure product. Mr. Sloane, by the way, is not only a finished rubber man, but when in Princeton College devoted considerable attention to chemistry, a study that he has since followed, and he therefore is well equipped for the very interesting problems that he is now solving.

NO CHANGE IN THE HOOD RUBBER CO.

AT the present time very much of the interest in rubber shoe matters centers about the Hood Rubber Co. (Watertown, Mass.), as they are the largest as well as the most successful of the "outside" concerns. The following statement from the company is therefore timely and final:

"There is no change in the ownership of the Hood Rubber Co., and it is absolutely owned and controlled by the Hoods. Our policy of making honest goods of the highest quality will be steadfastly maintained."

HYGIENIC RUBBER CO.

THE business of making rubber heels, carried on formerly by the "Don't Slip" Heel and Sole Co. (Lynn, Mass.), is now conducted under the name of the Hygienic Rubber Co. The former company was incorporated in Maine November 18, 1899, with $300,000 capital authorized. The business is reported to have been bought by F. J. Bush, of Boston, who is now conducting it as above. William Raphael, of Brockton, Mass., some time with the Monarch Rubber Co., and also the Standard Rubber Corporation, has become foreman of the factory at Lynn.

BOSTON RUBBER BOOT AND SHOE EXPORTS FOR NOVEMBER.

	Pairs.	Value.	Value. 1899.
To England	53,345	$26,230	$19,911
To Denmark	1,889	1,288	672
To Miquelon	1,045	892	611
To Nova Scotia	336	845	1,342
To Newfoundland	2,178	749	167
To Belgium	576	165	....
To France	14	60	....
To Austria-Hungary	....	....	320
Total	59,383	$30,229	$23,023

MR. CONVERSE'S GIFT TO A LIBRARY.

THE Hon. Elisha S. Converse, president of the Boston Rubber Shoe Co., has presented $125,000 to the trustees of the Malden Public Library, in Malden, Mass., to be known as the "Elisha S. and Mary D. Converse Endowment Fund." The Malden library occupies the beautiful Converse Memorial Building, presented to the City of Malden for the use of a free public library and gallery of art, in 1885, by Mr. and Mrs. Converse, in memory of their son, Frank Eugene Converse. In addition to providing the building, Mr. Converse has contributed in many ways to the support and growth of the library, besides serving actively on the board of trustees.

NEW INCORPORATIONS.

THE Franklin Rubber Co. (Boston), January 10, under Massachusetts laws, to manufacture rubber goods; capital, $50,000. President: Charles T. Small; treasurer: Everett L. Fuller. Offices: Nos. 11–13 Franklin street. This corporation will continue the business conducted hitherto by Messrs. Fuller and Small in partnership, under the style of Franklin Rubber Co. and Fuller, Leonard & Small.

=Brooke Airless Pneumatic Tire Co. (Denver), under Colorado laws, to make and sell pneumatic tires; capital, $10,000. Incorporators: F. A. Burnell, M. E. Brooke, and S. Williams.

=Goff, Crary & Smith Co. (Binghamton, New York), December 15, under New York laws, to deal in leather and rubber goods; capital, $100,000. This corporation succeeds a boot and shoe jobbing firm of several years' standing.

=Excelsior Ring Packing Co. (Brooklyn), under New York laws, January 16, to manufacture packing, anti-friction metal, and rubber goods; capital, $5000. Directors: Jacob S. Meuberger, Herman Schwickast, and Walter E. Warner.

TRADE NEWS NOTES.

THE National Cement and Rubber Manufacturing Co. (Toledo, Ohio), mentioned lately as having had a fire in their premises, lost no time in making arrangements with the owners of a large factory in the same city, fully equipped with machinery suited for their purpose. Their new location is No. 3049 Monroe street.

=The Milltown India Rubber Co. have a force of men at work grading the grounds between their factory and the tracks of the Raritan River railroad. A spur of the road will be built to afford convenient shipping facilities to the factory.

=The phenomenal growth of the Diamond Rubber Co. (Akron, Ohio) is shown in the fact of their having sixty large mixing mills, and even with this largely increased machinery several departments are run nights.

=The Consumers' Rubber Co. (Cleveland, Ohio) have moved into more commodious quarters at No. 22 South Water street, and are very busy on general mechanical goods.

=Sipe & Sigil (Cleveland, Ohio), builders of electric vehicles, have put up a plant for the manufacture of their own hard rubber battery cells. Mr. Reubenstrunck, formerly employed by the Goodyear Vulcanite Co., is the superintendent.

=The Byfield Rubber Co. (Bristol, R. I.) have resumed the manufacture of tennis shoes, having orders on hand sufficient to last nearly three months.

=The varnish shop at the Woonsocket Rubber Co.'s factory (Woonsocket, R. I) was burned out on December 13, but on account of the isolated position of the building—planned originally with a view to just such an emergency—the company's fire brigade and the city firemen were able to prevent any damage to the factory proper.

=The Kokomo Rubber Co. (Kokomo. Ind.) have just put in a large size Royle tubing machine for tire work.

=The Indiana Insulated Wire and Rubber Co. (Jonesboro, Ind.), who are probably the only concern making rubber goods who use natural gas as a fuel, are preparing to substitute petroleum for it.

=The Dunlop Pneumatic Tyre Co., Limited—the parent Dunlop company—are reported to have filed a suit for damages in Toronto against the Canadian and American Dunlop companies, alleging breach of contract by the defendants in making shipments of tires to Australia, in violation of an agreement not to sell tires outside of America. The sum named in in the suit is $250,000.

=A bill of complaint has been filed in the United States circuit court at Hartford, Conn., by Lucius Whiton, of New London, against the Hartford Rubber Works Co., alleging an infringement of patent No. 343,351, issued to him July 13, 1886, for improvements in pneumatic tires. The suit has reference only to the application of these tires to vehicles.

=The will of the late Mahlon C. Martin, a director of the United States Rubber Co., filed for probate at New Brunswick, N. J., shows his estate to have embraced real estate valued nt $110,000 and his personal property at $457,639.71, estimating his securities at market rates. He held 1216 shares of United States Rubber preferred and 1200 shares of common stock.

=In the United States court at Hartford, Conn., Judge Townsend has filed a consent degree in the suit of The Rubber Tire Wheel Co. (Springfield, Ohio) against C. S. Mersick & Co., of New Haven. The defendant confessed to infringement of the Springfield-Kelly solid tire patent, and has made a satisfactory arrangement.

=A share of the New York Rubber Co. brought 120 at a public auction of miscellaneous stocks in New York a few days ago.

=The old fashioned Dutch windmill that the Milltown India Rubber Co. are taking for a trade-mark is an exceedingly apt one. Whether in their advertisement or in their cartons, it attracts attention at once.

=R. H. Griffin, who first became identified with the rubber footwear trade in 1886, when he became a salesman for the New Jersey Rubber Shoe Co., and who has been in the employ of the United States Rubber Co. since the purchase of the Jersey factory by the latter, has taken charge of the rubber department of the large shoe jobbing house of Weimer, Wright & Watkin, of Philadelphia.

=The Straus Tire and Rubber Co., who were burned out recently in Greenwich street, New York, have resumed work at Nos. 351–353 East Sixty-first street. They have discarded bicycle tires for solid vehicle tires, but continue the pedal rubber business.

=J. J. Adams of Worcester, Massachusetts, who does a great amount of die work for the rubber trade, is especially favored in having a practical man in Mr. Charles Anderson, who visits the New England trade and wrestles with die problems right at the factory.

=The Sine Rubber Co. (Williamsport, Pa.) are doing an excellent business in smaller lines of mechanical rubber goods.

=The Hanover Vulcanite Co. are introducing in the United States a new hard rubber comb which has a dull finish that is an excellent imitation of ebony. The goods are really very much more artistic than polished goods, and are already taking hold with the trade.

=Charles Dove, for some time with the W. H. Conant Gossamer Rubber Co., has started in business for himself at No. 165 Franklin street, Boston, where he will handle specialities in shower proof goods.

=The Trenton Rubber Manufacturing Co. (Trenton, New Jersey) are about to install a new large double-platen belt press.

=Ernest L. Baldwin, formerly with the Empire Rubber Manufacturing Co., has been elected vice president and general manager of the Diamond Belting and Packing Co., the incorporation of which was reported in the last INDIA RUBBER WORLD, with offices at No. 15 Warren street, New York.

=Morgan & Wright, the Chicago tire manufacturers, are reported to have decided to discontinue the sale of other tire sundries than those of their own make.

=At the recent annual meeting of the Milwaukee Patent Puncture Proof Tire Co. (Milwaukee, Wis.) George H. Benzenberg was elected president, G. Podoll vice president, W. D. Halsted secretary and treasurer, and Emil Durr and Thomas Spence additional directors.

=Notice of suit has been filed in the United States circuit court at Hartford, Connecticut, by the Single Tube Automobile and Bicycle Tire Co., a New Jersey corporation, against the Hartford Rubber Works Co., based upon an alleged violation by the latter company of an agreement respecting the prices of pneumatic tires.

=The trustees of the Mechanical Rubber Co. (New York) have advertised their readiness to expend a certain amount of money in retiring 6 per cent. bonds of the company, inviting sealed offers of such bonds on or before February 1.

=The Hartford Rubber Works Co. are extending the space occupied by their New York branch—No. 99 Chambers street—to Reade street, so that the store will reach clear through the block, giving them an entrance on each street.

=Humphrey O'Sullivan, of rubber heel fame, is just back from Cleveland, where he has been visiting every possible handler of rubber heels with a view to size up the attitude of the people in the middle West toward his specialties.

=Outside parties have been inspecting an idle mill property at Harris, near Providence, R. I., with the result that the town is alive with gossip that a rubber factory will be started there.

=W. W. Gibbs, the Philadelphia financier, it is announced, has retired from the presidency of several large companies, including the Manufactured Rubber Co., though remaining a director in them and a holder of their securities to an important extent.

=The United and Globe Rubber Manufacturing Cos., of Trenton, N. J., are building an important extension to their factory, necessitating four additional boilers in their power plant.

=William Lapworth has bought the property now used by Lapworth & Sons in the manufacture of elastic goods and fabrics, at Milford, Mass. It is understood that this purchase is with a view of enlarging the plant.

=The Mann & Philpott Co. (Cleveland, Ohio) have changed their name to the G. B. Mann Rubber Co., with John B. Taylor president and George B. Mann secretary.

=The annual meeting of the stockholders of the New York Rubber Co., for the election of trustees, was held in the office of the company in New York on January 29.

=H. K. Felton, who is well known as a successful salesman of mechanical rubber goods, has accepted a position as salesman with the new mechanical goods manufacturing firm of F. N. Woodward & Co., Watertown, Mass.

=A. W. Hamanett, for four years past in charge of the machine department of the Dickinson Hard Rubber Co. (Springfield, Mass.), has accepted a similar position with the Duranoid Manufacturing Co. (Newark, N. J.)

=The Beacon Falls Rubber Shoe Co. have added 10,000 square feet to the floor space occupied in their Chicago headquarters by taking another floor of the building, Nos. 207-209 Monroe street, where they are located.

=The sheriff of New York county was reported lately to have served upon the United States Pneumatic Horse Collar Co. an attachment for $5000 in favor of Elmer E. Fingarr, of Kings county, N. Y.

=C. F. Armon, formerly head salesman for the Goodyear Rubber Co. (St. Paul, Minn.), has gone on the road for that house, to cover Washington, Idaho, and Alaska. He is succeeded as head salesman by Frank Eilers.

=The Bourn Rubber Co. (Providence, R. I.) have opened a branch office for the sale of their rubber footwear at No. 21 North Third street, Philadelphia, in charge of G. Elwood Benton.

=J. A. Dennis has established himself in the mechanical rubber goods business at No. 149 Church street, New York, and is prepared to execute orders on a wide line of goods in this branch.

=A. F. Solbery, the Chicago representative of the Boston Rubber Shoe Co., has become established lately in new quarters, at No. 209 Jackson boulevard.

=The Goodyear Rubber Co. (Milwaukee, Wis.) have had good orders for "Gold Seal" rubber boots from Alaska. They are reported to be in demand with hunters.

=McCune Brothers, shoe dealers at Fort Dodge and Boone, Iowa, are about to open a wholesale boot and shoe house in Des Moines, and will handle rubbers extensively. One of the firm has taken up his residence in Des Moines.

=Joseph J. Byers, formerly of New York and London, and well remembered for his exploitation of "Byers' ventilating epaulettes" for mackintoshes and later of "Pegamoid," is now reported to be a financier in Philadelphia. He is trying to found a great model industrial town near that city.

=Alex. P. Mende & Co. (New York) advise THE INDIA RUBBER WORLD that they have made very satisfactory drying tests of sheet rubber and reclaimed rubber for a number of rubber manufacturing establishments.

=The Joseph Dixon Crucible Co. (Jersey City, New Jersey) lately sent out to their customers, "with the compliments of the season," a box containing a full line of samples of the large number of styles of lead pencils of their manufacture, with an assortment of erasers. The latter are made in the company's own rubber plant, at Jersey City.

=Mr. Vining, superintendent of Whitman & Barnes Manufacturing Co.'s rubber plant, at Akron, Ohio, who has been quite ill for some time past, is back at the works, having fully recovered his health.

="Where the New Century Will Really Begin" is the title of a readable booklet, published in neat style by the Joseph Dixon Crucible Co. (Jersey City, N. J.), which ends with an equally readable description of the Dixon pencils.

=The Goshen Rubber Co. (Goshen, Ind.) have been installing a new calender, and have just received a machine for cutting elastic bands.

=The plant of the Peoria Rubber and Manufacturing Co. (Peoria, Ill.) has been sold to a company who are to manufacture carriages there. The rubber outfit, however, had already been shipped to Akron.

=Freeman Hunt, Esq., who addressed the New England Rubber Club at the Goodyear dinner so acceptably, is a well known Boston lawyer, and has successfully conducted numerous suits in the rubber interest.

DEATH OF MRS. JOSEPH BANIGAN.

MRS. MARIA T. BANIGAN, widow of Joseph Banigan, former rubber manufacturer of Providence, R. I., dropped dead at the home of her niece, Mrs. Scott Lina, in Chicago, on Thursday, January 17. She went to Chicago from Providence about two months ago to make a prolonged visit to her niece. She was popularly known at her home as "the mother of the needy." She founded the St. Maria's Home for Working Girls in Providence. Mrs. Banigan was Miss Maria T. Conway, of New York, and was married to Mr. Banigan November 4, 1873, being his second wife. Mr. Banigan died at the family residence in Providence, July 28, 1898, in his sixtieth year.

=Joseph H. Shoemaker, a stockholder in and secretary of the Goshen Rubber Co. (Goshen, Indiana), died of heart disease at his home in Montpelier, Ind., on December 3. He left a young wife, having been married in September last. They were about to remove to Goshen. Mr. Shoemaker was the founder and cashier of the Farmers' Deposit Bank, at Montpelier.

=Mr. F. A. Wilcox, of the Pennsylvania Rubber Co. (Erie, Pa.), has suffered a sad bereavement in the death of his only son, a bright boy of six years, which occurred on January 11.

=Dr. John D. Hodge, who had been paymaster at the Fells factory of the Boston Rubber Shoe Co. for eighteen years, died January 10, aged 60 years. He had been a practising physician in the West before coming into this position.

=Word comes just as we go to press of the serious illness of Mr. F. B. Pennington, of the Standard Rubber Corporation Brockton, Mass. We sincerely trust that in a later issue we can chronicle his complete recovery and his happy return to the business in which he has spent so many years of conscientious effort.

=Mrs. Martha F. Sesselberg, the former Pará correspondent of THE INDIA RUBBER WORLD, is slowly recovering from a very critical operation performed by Dr. W. M. Polk, at a private hospital in New York city.

REVIEW OF THE CRUDE RUBBER MARKET.

THERE has been a continued decline in crude rubber prices during the past month, marked by a drop of a cent on leading grades about once a week. Our published quotations show a net loss on Pará sorts of 3 to 5 cents a pound, on different grades. The facts of a decline existing, of inactivity in certain branches of consumption, and the increase in visible supplies, has led to conservative buying on the part of manufacturers as a rule, their orders being confined chiefly to small lots for immediate requirements. The smaller receipts at Pará this season than for the two or three years preceding have led to a feeling in certain quarters that possibly it might be due to accumulations of rubber up the Amazon valley, just as was true in a recent former year, when there were very heavy arrivals at Pará in February and March. The possibility of such an occurrence doubtless has had an effect in rendering holders of rubber anxious to dispose of their stocks, and this perhaps explains in part the late decline in prices.

Quotations in New York on January 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new	84 @85	Tongues	51 @52
Islands, fine, old	86 @87	Sierra Leone	60 @61
Upriver, fine, new	87 @88	Benguella	54 @55
Upriver, fine, old	89 @90	Congo ball	52 @53
Islands, coarse, new	48 @49	Cameroon ball	51 @52
Islands, coarse, old	@	Flake and lumps	41 @42
Upriver, coarse, new	65 @66	Accra flake	19 @20
Upriver, coarse, old	66 @67	Accra buttons	52 @53
Caucho (Peruvian) sheet	52 @53	Accra strips	@
Caucho (Peruvian) strip	none imported now.	Lagos buttons	52 @53
Caucho (Peruvian) ball	60 @61	Lagos strips	@
CENTRALS.		Liberian flake	@
Esmeralda, sausage	58 @59	Madagascar, pinky	@
Guayaquil, strip	51 @52	Madagascar, black	@
Nicaragua, scrap	56 @57	GUTTA-PERCHA.	
Mangabeira, sheet	45 @46	Fine grade	1.75
EAST INDIAN.		Medium	1.45
Assam	82 @83	Hard white	1.20
Borneo	37 @48	Lower sorts	65
		Balata	

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine	6$450	Upriver, fine	7$200
Islands, coarse	2$750	Upriver, coarse	4$500

Exchange $10\frac{1}{16}$ *d.*

NEW YORK RUBBER PRICES FOR DECEMBER (NEW RUBBER.)

	1900.	1899.	1898.
Upriver, fine	92 @95	1.08 @1.10	96 @ 98
Upriver, coarse	67½@69	86 @ 90	85½@ 88
Islands, fine	86 @89	1.05½@1.08	90 @ 94
Islands, coarse	53 @54½	65 @ 69	65 @ 69
Cametá, coarse	54 @56	66 @ 70	66½@ 70

Our acknowledgments are due to Earle Brothers (New York) for their Rubber Statistics, December 31, 1900, this being the longest continued publication of rubber statistics of any firm in the United States. Also, to Kramrisch & Co. (London and Liverpool) for a diagram showing the fluctuations in the prices of leading grades of rubber during 1900.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us:

"General money market conditions have eased considerably during January, especially the last half of the month, and rates for the best rubber paper have dropped to 4½@5 per cent., and for fair grade 5½@6 per cent., and with quite a good demand, more especially from out of town banks."

Statistics of Para Rubber (Metric Tons.)

NEW YORK.

	Fine and Medium.	Coarse.	Total 1900.	Total 1899.	Total 1898.
Stocks, November 30	504	75 =	579	306	222
Arrivals, December	1254	604 =	1858	943	1338
Aggregating	1758	679 =	2437	1249	1560
Deliveries, December	1185	594 =	1779	839	1262
Stocks, December 31	573	85 =	658	410	298

	PARÁ.			ENGLAND.		
	1900.	1899.	1898.	1900.	1899.	1898.
Stocks, November 30.	610	305	814	950	435	915
Arrivals, December	3145	2600	3100	530	580	970
Aggregating	3755	2905	3914	1480	1015	1885
Deliveries, December	3095	2245	3379	700	575	1000
Stocks, Dec. 31	660	660	535	780	440	885

	1900.	1899.	1898.
World's supply, Dec. 31 (excluding Caucho)	3660	3233	2773
Pará receipts, July 1 to December 31	10,736	11,085	11,230
Afloat from Pará to United States, Dec. 31	450	977	
Afloat from Pará to Europe, December 31	1120	826	

Rubber Imports Classified.

THE following analysis appears, in a recent government publication, of the imports into the United States of India-rubber and Gutta-percha, for the last two fiscal years. It is of interest to note the extent to which the imports of scrap rubber have increased. The omission of Balata from the imports for the past year doubtless is due to an error in classification:

1899.		CLASSIFICATION.	1900.	
POUNDS.	VALUE.		POUNDS.	VALUE.
51,216,185	$31,712,237.00	India-rubber	49,692,800	$31,[illegible]80.00
526,700	169,745.00	Gutta-percha	427,392	178,[illegible]00
6,464,345	166,561.00	Gutta-jelatong (Pontianak)	8,701,783	237,[illegible]00
21,913	7,633.00	Balata	[illegible]	[illegible]
10,282,732	450,994.92	Scrap Rubber	18,753,367	1,234,515.81
68,511,873	$32,507,170.92	Total	77,574,432	$33,041,533.81

Para.

KANTHACK & CO. report [January 9]: "The tone of the market during the past week has continued to be fairly good, perhaps not so much from any activity on the part of buyers, but chiefly in consequence of limited arrivals, which have not proved sufficient to supply the existing demand. What the situation may be, when supplies arrive more regularly and so abundantly as to prove unwieldy for quick absorption, is a source of some anxiety to the receivers, who find themselves inconvenienced by the increasing financial stringency."

Liverpool.

WILLIAM WRIGHT & CO. report [January 2]: "*Fine Pará.*—There has been more demand both spot and forward. In the early part of the month prices still further declined, but since there has been a recovery, and prices close at an equivalent rate to those of last month [end of November]. The tone of the market both here and at Pará continues firm, and, in spite of larger receipts, prices in Pará have advanced, chiefly owing to American buying. A better trade demand is anticipated next month, but whether this will further improve prices de-

pends largely on the size of the receipts. Spot sales total 105 tons, closing rates being 3*s.* 10½*d.* Upriver new; 3*s.* 11½*d.* and 4*s.* for Upriver old; and Islands at 3*s.* 9½*d.* A good demand for delivery, principally January-February and February-March, closing prices being 3*s.* 10¾*d.* for Upriver and 3*s.* 10*d.* for Islands. *African.*—There has been a good business done in lump Rubbers during the month, but other descriptions, including Liverpool pressed Rubber, have been neglected. The market closes slightly firmer, with less disposition to sell at late rates."

The same firm in their annual review for 1900, say: "Reviewing the market for the year, one can only say it has been an extremely difficult one to gage. In fact, the ordinary law of supply and demand has been put on one side, and prices have been manipulated by either 'bulls' or 'bears' to suit their own convenience. In our opinion, the chief cause of this state of things is due to the fact that manufacturers have not carried as large reserve stocks as hitherto; consequently the market has had to carry them, which has in the first place given an erroneous impression of the actual position, viz.: by increasing the visible supply largely, and, in the second place, it has enabled speculators to manipulate the market to serve their own ends. In no other year have there been such continual and unnecessary violent fluctuations. Surely it cannot be a healthy state of things for the trade to allow itself to be at the mercy of illegitimate fluctuations."

London.

JACKSON & TILL, under date of January 1, report stocks:

		1901.	1900.	1899.
LONDON	Pará sorts	—	—	—
	Borneo	220	179	169
	Assam and Rangoon	30	17	41
	Other sorts	788	448	414
	Total	1038	644	624
LIVERPOOL	Pará	776	440	895
	Other sorts	1087	771	590
	Total, United Kingdom	2901	1855	2109
	Total, December 1	3061	1789	2294
	Total, November 1	3040	1860	2126
	Total, October 1	2846	1831	1841
	Total, September 1	3170	1988	1546
	Total, August 1	3645	1878	1469

PRICES PAID DURING DECEMBER.

	1900.	1899.	1898.
Pará fine	3/9½ @4/-	4/5½@4/7	3/10¼@4/1½
Negroheads, Islands	2/1½	2/9	2/8 @2/11
Do scrappy	2/9½ @2/10	3/7 @3/7½	3/5½ @3/7½
Bolivian	No sales.	4/7	4/0½ @4/1½

HECHT, LEVIS & KAHN (London) announced, December 31, the retirement from business, after thirty years of uninterrupted activity, of their senior, Mr. Albert Kahn, and that the firm would be continued by the remaining partner, Mr. Edward Berg. Another announcement, of the same date, was that the firm above named had been amalgamated with that of their friends and relatives, Hecht Frères & Co. (Paris.) "While the two houses retain their individuality and will be continued under the same styles as hitherto, each firm assumes full responsibility for the liabilities of the other." Ernest Hecht and Emile Alcan, of Paris, and J. R. Jones and Felix Dorn, of Liverpool, are authorized to sign for Hecht, Levis & Kahn.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the new year began, transactions in rubber here have been confined to inferior sorts, as Bissao, Conakry, Soudan niggers, etc., at unchanged prices. At the inscription sales on January 22, about 380 tons will be offered, the principal lots being valued:

50 tons	Mongalla	fr. 7.25	29 tons	Yengu	fr. 8.35
16 "	Isangi	6.50	13 "	Monboyo	7.50
20 "	Equateur	7.40	23 "	Lopori	7.50
17 "	Upper Congo Strips	7.30	27 "	Upper Congo	7.40
20 "	Aruwimi	7.55	18 "	Lake Leopold II	5.75
25 "	Bussira	7.			

Yengu sorts are similar to Ikelemba and Monboyo similar to Ruki.

C. SCHMID & CO.

Antwerp, January 11, 1901.

ANTWERP RUBBER STATISTICS FOR DECEMBER.

DETAILS.	1900.	1899.	1898.	1897.	1896.
Stocks, Nov. 30 Kilos	1,064,646	179,778	270,315	183,215	170,652
Arrivals, December	170,135	319,351	220,869	84,880	107,983
Aggregating	1,234,781	499,129	491,184	268,095	278,635
Sales in December	620,742	207,138	227,844	173,632	139,007
Stocks, December 31	614,039	291,991	263,340	94,463	139,628
Arrivals since Jan. 1	5,698,035	3,042,880	2,014,591	1,679,154	1,115,875
Sales since January 1	5,375,987	3,374,229	1,845,714	1,724,319	1,065,101

EMILE GRISAR reports the following sources of the imports of rubber at Antwerp during two years past (in kilograms):

	1899.	1900.
Congo Free State	2,992,414	4,902,003
All Other Countries	410,466	796,032
Total	3,402,880	5,698,035

COMPARATIVE PRICES.

GRADES.	Dec. 31, 1899.	Dec. 31, 1900.	Decrease.
Kassai, red	10.50 francs.	9.	14.28%
Lopori, Bussira, Equateur, Lulonga, Ikelemba	10.62½	8.35	21.41%
Aruwimi	9.45	7.75	17.98%
Mongalla	10.25	7.90	22.92%
Upper Congo, ordinary	10.25	7.90	22.92%
Lower Congo red thimbles	6.17½	4.32½	29.95%
Fine Pará	4*s.* 7*d.*	3*s.* 10*d.*	16.36%

ARRIVALS AT ANTWERP.

DEC. 20.—By the steamer *Bruxellesville*, from the Congo:

Bunge & Co. (Société Anversoise) kilograms	52,000	
Bunge & Co. (Equatoriale Congolaise)	3,000	
Bunge & Co. (Domaine privé Etat du Congo)	30,000	
Société Coloniale Anversoise (divers)	24,000	
Société Anonyme pour le Commerce Coloniale (Kwango)	4,000	113,000

JAN. 7.—By the steamer *Phillipeville*, from the Congo:

Bunge & Co. kilograms	95,000	
Bunge & Co (Djuma)	14,000	
Bunge & Co. (Lacourt)	4,000	
Comptoir Commercial Congolais	5,000	
Henri Randaxhe (La Loanjé)	2,000	
Société Coloniale Anversoise (Haut Congo)	9,000	
Société Coloniale Anversoise (Lomami)	18,000	
M. S. Cols (Lubefu)	19,000	
M. S. Cols (Végétaux Kassai)	25,000	
Soc. An. pour le Commerce Colonial (Est Kwango)	1,000	
Ch. Dethier (Belgika)	10,000	
Société Cafri	5,000	
J. P. Best & Co	1,000	208,000

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weights in Pounds.*]

December 31.—By the steamer *Lisbonense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co	122,000	25,100	59,200	1,200=	207,500
Reimers & Co	123,500	26,500	65,600	.....=	215,600
Crude Rubber Co	90,000	14,800	29,100	.....=	133,900

Albert T. Morse & Co..	58,200	10,000	55,000	3,400=	126,600
Otto G. Mayer & Co....	50,500	7,500	13,200	.....=	71,200
Boston Rubber Shoe Co..	24,800	2,900	15,100	....=	42,800
Lawrence Johnson & Co.	.....	....	11,400	.....=	11,400
Edmund Reeks & Co....	6,100	.....	1,200	.....=	7,300
Lionel Hagnaers & Co..	5,500	.....	400	. ...=	5,900
William Wright & Co....	4,000	700	900	.....=	5,600
Total.....	484,600	87,500	251,100	4,600=	827,800

January 8.—By the steamer *Dominic*, from Manáos and Pará:

New York Commercial Co.	156,100	18,600	52,500	4,500=	231,700
Crude Rubber Co.....	118,500	35,000	38,600	4,800=	196,900
Reimers & Co.	116,700	17,900	52,800	5,000=	192,400
Boston Rubber Shoe Co..	101,600	16,600	21,600	.....=	139,800
A. T. Morse & Co.	67,200	18,800	22,800	25,100=	133,900
Edmund Reeks & Co....	19,500	2,000	3,100	.... =	24,600
Kunhardt & Co.....	9,200	3,200	500	.... =	12,900
G. Amsinck & Co.....	8,400	3,400	. ..	.....=	11,800
William Wright & Co ...	4,400	300	700	.... =	5,400
Otto G. Mayer & Co. ...	5,300	. ...	.....	.....=	5,300
Herbst Brothers	.....	2,500	.....	.....=	2,500
Total.... ...	606,900	118,300	192,600	39,400=	957,200

January 15.—By the steamer *Hubert*, from Manáos and Pará:

New York Commercial Co.	211,300	41,200	120,900	24,900=	398,300
Crude Rubber Co.....	161,400	31,500	75,900	10,100=	278,900
Albert T. Morse & Co....	101,700	21,100	48,700	7,000=	178,500
Reimers & Co.....	74,600	11,400	62,000	900=	148,900
Boston Rubber Shoe Co.	29,100	3,400	18,800	900=	52,200
Otto G. Mayer & Co....	14,800	4,000	16,600	800=	36,200
Czarnikow, McDougal & Co.	7,100	3,700	.....	.....=	10,800
Edmund Reeks & Co....	1,800	300	800	.....=	2,900
Total	601,800	116,600	343,700	44,600=	1,106,700

January 15.—By the steamer *Grangense*, from Pará:

Reimers & Co..... ..	98,300	23,600	53,200	.....=	175,100
New York Commercial Co.	30,600	5,900	48,700	600=	85,800
Crude Rubber Co.....	44,600	5,900	24,200	.....=	74,700
Boston Rubber Shoe Co..	19,800	2,600	15,600	8,100=	46,100
Albert T. Morse & Co...	3,700	700	37,600	.....=	42,000
Lawrence Johnson & Co..	.....	.....	11,400	.....=	11,400
Otto G. Mayer & Co.....	.....	.....	9,600	.... =	9,600
Total...	197,000	38,700	200,300	8,700=	444,700

[NOTE.—The steamer *Flumiense*, from Pará, with 410 tons of rubber on board, was due at New York February 1.]

PARA RUBBER VIA EUROPE.

	POUNDS.	
DEC. 22.—By the *Campania*=Liverpool:		
Reimers & Co. (Fine).....	22,000	
A. T. Morse & Co. (Caucho)	5,800	27,800
DEC. 26.—By *La Normandie*=Havre:		
Reimers & Co. (Caucho).....		7,800
DEC. 27.—By the *Teutonic*=Liverpool:		
Reimers & Co. (Fine).....	9,600	
A. T. Morse & Co. (Coarse).....	7,800	17,409
DEC. 31.—By the *Etruria*=Liverpool:		
Reimers & Co. (Fine).....	26,000	
Reimers & Co. (Coarse)..	5,200	31,200
JAN. 7.—By the *Cymric*=Liverpool: ✓		
William Wright & Co. (Caucho) .. .	11,700	
Reimers & Co. (Coarse).....	2,000	13,700
JAN. 11.—By the *Germanic*=Liverpool: ✓		
A. T. Morse & Co. (Caucho)	20,000	
Reimers & Co. (Coarse)..	11,000	31,000
JAN. 17.—By the *Majestic*=Liverpool:		
Edmund Reeks & Co. (Fine).....	5,700	
Edmund Reeks & Co. (Coarse).....	1,200	
Edmund Reeks & Co. (Caucho).....	4,600	
Reimers & Co. (Coarse).....	3,500	15,000

OTHER IMPORTS AT NEW YORK.

CENTRALS.

	POUNDS.	
DEC. 24.—By the *Altai*=Cartagena:		
Kunhardt & Co.....	2,500	
Thebaud Brothers.	500	
For Bremen	300	3,300
DEC. 24.—By the *Yucatan*=Mexico:		
E Steiger & Co.	3,500	
H. Marquardt & Co	600	
Thebaud Brothers..... ..	200	
J. W. Wilson & Co.....	500	4,800
DEC. 26.—By the *Alliance*=Colon:		
G. Amsinck & Co.....	3,500	
Eggers & Heinlein.....	1,500	
Fred Probst & Co.	400	
James Hardmann, Jr...	300	
D. N. Carrington	200	5,900
DEC. 27.—By *El Monte*=New Orleans:		
Manhattan R. Mfg. Co.....	2,500	
Eggers & Heinlein.....	1,500	
Harburger & Stack.....	500	4,500
DEC. 29.—By the *Seguranca*=Mexico:		
E Steiger & Co	5,000	
Thebaud Brothers	1,500	
H. Marquardt & Co.....	1,000	
F. Probst & Co.	300	
L N. Chemedlin & Co...	100	8,100
DEC. 26.—By the *Kestor*=Colon:		
G. Amsinck & Co.....	11,200	
A. Santos & Co....	6,700	
Eggers & Heinlein.	6,000	
Flint, Eddy & Co.	5,400	
Roldan & Van Sickel.....	4,500	
Lanman & Kemp	4,100	
Hirzel, Feltman & Co.....	3,700	
Dumerest & Co.....	2,900	
A. P. Strout....	2,800	

CENTRALS—Continued.

De Sola Labo & Co.....	1,700	
L. N. Chemedlin & Co..... .	1,400	
W. Loaiza & Co	1,200	
Lawrence Johnson & Co.....	1,000	
New York and Java Trading Co.....	900	
W. R. Grace & Co.....	900	
J. B. Sageman.....	700	
Kunhardt & Co..	400	
D. N. Carrington & Co	100	55,600
DEC. 31.—By the *Alene*=Greytown:		
A. P. Strout..... ...	7,000	
For London	3,500	
Andreas & Co	2,000	
D. A. De Lima & Co.....	2,500	
Lawrence Johnson & Co	1,000	
Roldan & Van Sickel	200	
New York Commercial Co.....	300	
G. Amsinck & Co.....	100	16,700
DEC. 31.—By the *Proteus*=New Orleans:		
A. T. Morse & Co.....		6,000
JAN. 2.—By the *Finance*=Colon:		
Hirzel, Feltman & Co....	14,700	
Roldan & Van Sickel	4,100	
Isaac Brandon & Bros.....	4,500	
Crude Rubber Co	3,600	
A. N. Rotholz	400	
G. Amsinck & Co.	300	27,600
JAN. 2.—By the *Pretoria*=Hamburg:		
Reimers & Co.		5,000
JAN. 2.—By the *Hevelius*=Bahia:		
J. H. Rossbach & Bros		10,000
JAN. 4.—By *El Cid*=New Orleans:		
A. T. Morse & Co.....	6,000	
W. R Grace & Co	2,500	8,500
JAN. 7.—By the *Orizaba*=Mexico:		
H. Marquardt & Co	2,500	
Flint, Eddy & Co.	300	2,800
JAN. 8.—By the *Cap Frio*=Hamburg: ✓		
Livesey & Co....	4,500	
Reimers & Co....	2,200	6,700
JAN. 9.—By the *Niagara*=Colon:		
G. Amsinck & Co.....	16,000	
Hirzel, Feltman & Co..... ...	14,400	
D. A. De Lima & Co.....	5,200	
A. P. Strout.....	5,500	
W. Loaiza & Co.....	4,100	
Lanman & Kemp...	3,600	
Roldan & Van Sickel..... ...	3,200	
Dumarest & Co.....	2,700	
Lawrence Johnson & Co.....	2,700	
Eggers & Heinlein.....	2,200	
A. Santos & Co.....	2,000	
J. B. Sageman.....	1,300	
Kunhardt & Co.....	1,100	
Pomares & Cushman..... ...	800	
R. F. Cornwell.....	700	
D. N. Carrington.....	400	
Flint, Eddy & Co	100	66,000
JAN. 12.—By *El Mar*=New Orleans: ✓		
A T. Morse & Co.....	6,000	
W. R Grace & Co	4,000	10,000
JAN 12—By the *Kenneth*=Colon:		
Dumarest & Co...	5,000	
A. Santos & Co	3,600	
G. Amsinck & Co...	3,000	
Hirzel, Feltman & Co.....	1,000	

CENTRALS—Continued.

H. Marquardt & Co.....	1,000	
S. Samper & Co.....	600	13,200
JAN. 14.—By the *Louisiana*=New Orleans:		
Eggers & Heinlein	3,500	
W. R. Grace & Co.....	3,000	6,500
JAN. 15.—By the *Adirondack*=Greytown:		
A. P. Strout...	9,000	
G. Amsinck & Co.....	3,000	
Kunhardt & Co	1,000	
S. Samper & Co....	500	
Ellinger Bros.....	500	14,000
JAN. 16.—By the *Advance*=Colon:		
Hirzel, Feltman & Co.....	1,100	
D. N. Carrington..... ..	1,100	2,200
JAN. 18.—By *El Sud*=New Orleans:		
A. T. Morse & Co....	2,000	
J. Friedlander....	10,000	12,000
JAN. 21.—By the *Altai*=Port Limon:		
A. N. Rotholz.....	900	
Lawrence Johnson & Co..... .	600	
N. Y. Commercial Co.....	400	
G. Amsinck & Co....	500	2,300
JAN. 22.—By the *Pennsylvania Railroad*=Mexico:		
G. Amsinck & Co	3,000	
L. N. Chemedlin & Co.....	2,000	5,000
JAN. 22.—By the *Alliance*=Colon:		
Flint, Eddy & Co	15,500	
Hirzel, Feltman & Co	10,000	
G. Amsinck & Co.....	8,100	
Silva Bussemeirs & Co.....	3,400	
Lawrence Johnson & Co....	1 600	
W. R Grace & Co	200	
J. B. Sageman.....	500	
Jimenez & Escobar.....	400	
Eggers & Heinlein.....	900	40,600
JAN. 23.—By the *Catania*=Bahia:		
J. H. Rossbach & Bros	3,500	
W. H. Crossman & Bros.....	2,000	
Lawrence Johnson & Co..	1,000	6,500

AFRICANS.

	POUNDS.	
DEC. 22.—By the *Campania*=Liverpool:		
George A. Alden & Co.....	11,500	
Crude Rubber Co	11,000	
Livesey & Co..... .. .	8,000	30,500
DEC. 26.—By the *Peninsular*=Lisbon:		
Albert T. Morse & Co....		33,000
DEC. 26.—By the *Hughenden*=Havre:		
Livesey & Co.....		18,000
DEC. 27.—By the *Teutonic*=Liverpool:		
Otto G Mayer & Co..	11,000	
Amerman & Patterson...	2,500	13,500
DEC. 31.—By the *Etruria*=Liverpool:		
Reimers & Co.—Almeidina.....		3,500
JAN. 2.—By the *Pretoria*=Hamburg:		
Livesey & Co.	11,500	
A. T. Morse & Co....	11,500	23,000
JAN. 5.—By the *Kensington*=Antwerp:		
A. T. Morse & Co...	120,000	
George A. Alden & Co..... ...	98,000	
Crude Rubber Co.....	99,000	
Reimers & Co	28,500	345,500

AFRICANS—Continued.

JAN. 8.—By the *Servia*=Liverpool:

Livesey & Co.	9,000	
George A. Alden & Co.	1,000	
Crude Rubber Co.	1,000	11,000

JAN. 8.—By the *Cap Frio*=Hamburg:

George A. Alden & Co.		40,000

JAN. 14.—By the *Phœnicia*=Hamburg:

A. T. Morse & Co.		5,500

JAN. 14.—By the *Noordland*=Antwerp:

Reimers & Co.		4,500

JAN. 14.—By the *Umbria*=Liverpool.

George A. Alden & Co.	14,000	
Reimers & Co.	8,500	
Livesey & Co.	14,500	
Crude Rubber Co.	7,500	44,500

JAN. 15.—By the *Canadian*=Liverpool:

Reimers & Co.	90,000	
A. T. Morse & Co.	45,000	135,000

JAN. 17.—By the *Southwark*=Antwerp:

George A. Alden & Co.	22,500	
Crude Rubber Co.	22,500	45,000

JAN. 17.—By the *Majestic*=Liverpool:

George A. Alden & Co.	15,000	
Crude Rubber Co.	22,000	37,000

JAN. 17.—By the *Caledonian*=Liverpool:

A. T. Morse & Co.		22,500

JAN. 19.—By the *Patricia*=Hamburg:

George A. Alden & Co.	7,500	
Livesey & Co.	1,500	9,000

JAN. 21.—By the *Campania*=Liverpool:

George A. Alden & Co.	14,000	
Crude Rubber Co.	14,500	
Livesey & Co.	12,000	
Reimers & Co.	1,500	
Otto G. Mayer & Co.	11,000	53,000

EAST INDIAN.

	POUNDS.
DEC. 31.—By the *Auapa*=Singapore:	
D. P. Cruickshank	12,000
JAN. 14.—By the *Phœnicia*=Hamburg:	
William Wright & Co.	11,500
JAN. 17.—By the *Southwark*=Southampton:	
Reimers & Co.	4,000

GUTTA-PERCHA AND BALATA.

	POUNDS.
DEC. 24.—By the *St. Louis*=Southampton:	
Patrick Bros. & Co.	1,000
JAN. 8.—By the *Cap Frio*=Hamburg:	
George A. Alden & Co.	2,500
JAN. 18.—By the *Georgic*=Liverpool:	
R. Crooks & Co.	5,000

BALATA.

JAN. 18.—By the *Manitou*=London:		
Earle Brothers	5,000	
George A. Alden & Co.	2,500	7,500

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—DECEMBER.

Imports:	POUNDS.	VALUE.
India-rubber	4,902,269	$2,377,792
Gutta-percha	2,350	299
Gutta-jelatong (Pontianak)	1,641,884	37,279
Total.	6,546,503	$2,415,370
Exports:		
India-rubber	18,208	$10,856
Reclaimed rubber	402,676	14,078
Rubber Scrap Imported	1,111,949	$83,704

BOSTON ARRIVALS.

	POUNDS.
DEC. 7.—By the *Assyria*=Hamburg:	
George A. Alden & Co.—African	4,590
DEC. 8.—By the *Devonian*=Liverpool:	
Livesey & Co.—African	5,784
DEC. 10.—By the *Sachem*=Liverpool:	
George A. Alden & Co.—Coarse Pará	2,200
George A. Alden & Co.—African	5,627
Livesey & Co.—African	1,910
Crude Rubber Co.—Coarse Pará	2,700
Crude Rubber Co.—African	5,580 18,017
DEC. 23.—By the *Sagamore*=Liverpool:	
Reimers & Co.—Fine Pará	13,214
DEC. 24.—By the *Ultonia*=Liverpool:	
Livesey & Co.—African	2,618
Reimers & Co.—African	10,981 13,599
DEC. 26.—By the *Irishman*=Liverpool:	
Livesey & Co.—African	5,065
DEC. 27.—By the *Lancastrian*=Liverpool:	
Reimers & Co.—Fine Pará	3,230
DEC. 31.—By the *Sylvania*=Liverpool:	
Reimers & Co.—Fine Pará	12,463

	POUNDS.	VALUE.
Total, May	53,285	36,126
Total, June	39,376	22,016
Total, July	115,865	56,897
Total, August	127,972	71,851
Total, September	223,215	143,609
Total, October	66,516	42,275
Total, November	35,689	16,968
Total, December	76,962	47,101

GUTTA-PERCHA.

DEC. 22.—By the *Anglian*=London:	
C. H. Arnold & Co.	5,024

IMPORTS OF INDIA-RUBBER IN THE PRINCIPAL MARKETS.

(IN KILOGRAMS.) REPORTED BY EMILE GRISAR, ANTWERP.

PORTS.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
Liverpool	10,278,000	11,445,000	12,244,000	13,222,000	16,113,000	14,627,000	18,136,000	15,659,000
London	1,805,000	1,746,000	1,966,000	1,544,000	1,718,000	2,053,000	2,752,000	2,561,000
Havre	786,000	1,065,260	1,326,821	1,499,666	1,633,140	2,326,665	2,394,600	3,032,000
Rotterdam	489,000	437,000	372,000	300,000	324,500	303,500	242,000	217,000
Antwerp	62,965	167,196	274,580	531,074	1,115,875	1,679,154	2,014,591	3,402,880
United States	14,856,000	15,706,000	14,252,000	15,858,000	13,833,000	17,421,000	18,470,000	22,674,000
Total	28,279,965	30,566,456	30,435,401	32,954,740	34,737,515	38,410,319	44,009,191	47,545,880

DECEMBER EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	149,957	36,159	99,520	—	285,636	234,430	35,530	31,848	14,117	315,925	601,561
Adelbert H. Alden	267,103	44,628	148,881	3,494	464,106	78,840	8,280	29,760	—	116,880	580,986
Frank da Costa & Co.	98,912	19,066	130,144	150	248,272	52,536	3,382	34,760	—	90,678	338,950
The Sears Pará Rubber Co.	142,387	18,425	59,780	2,240	222,832	—	—	—	—	—	222,832
Rudolf Zietz	14,420	1,812	13,520	—	29,752	32,528	2,830	28,214	712	64,284	94,036
Denis Crouan & Co.	6,970	—	2,240	—	9,210	25,670	8,330	10,800	—	44,800	54,010
Comptoir Coloniale Française	—	—	—	—	—	24,474	3,130	4,026	5,890	37,520	37,520
Kanthack & Co.	—	—	—	—	—	11,225	1,811	3,842	—	16,908	16,908
H. A. Astlett	8,160	510	1,300	—	9,970	—	—	—	—	—	9,970
Singlehurst, Brocklehurst & Co.	5,755	645	165	—	6,565	3,000	—	—	—	3,000	9,565
Pires Teixeira & Co.	4,198	—	352	—	4,550	—	—	—	—	—	4,550
Sundry small shippers	—	—	—	—	—	2,110	271	6,179	—	8,560	8,560
Direct from Iquitos	—	—	—	—	—	118,547	12,460	93,883	15,833	240,723	240,723
Direct from Manáos	363,977	78,251	79,812	23,957	546,067	329,209	49,704	80,511	27,479	486,903	1,032,970
Total for December	1,061,839	199,496	535,784	29,841	1,826,960	912,599	125,728	323,823	64,031	1,426,181	3,253,141
Total for November	590,699	89,515	367,903	15,308	1,063,425	664,279	101,708	151,752	20,826	938,565	2,001,990
Total for October	717,887	122,568	397,125	37,647	1,275,227	728,319	100,881	213,245	77,186	1,119,631	2,394,858
Total for September	295,610	66,261	265,567	45,504	672,942	273,905	39,729	88,540	6,664	408,838	1,081,780
Total for August	376,963	45,639	193,344	7,697	623,643	486,763	86,959	146,159	71,472	791,353	1,414,996
Total for July	148,853	28,698	102,431	28,796	308,778	151,995	24,461	119,417	49,211	345,084	653,862
Total, January–June	2,633,971	467,106	1,603,010	471,294	5,175,381	3,050,250	636,986	1,177,656	490,236	5,355,128	10,530,509
Total for 1900	5,825,822	1,019,283	3,465,164	636,087	10,946,356	6,268,110	1,116,452	2,220,592	779,626	10,384,780	21,331,136
Total for 1899					13,860,692					11,542,446	25,403,138

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"Goodrich" and **"Hartford"** Single Tube Bicycle Tires.

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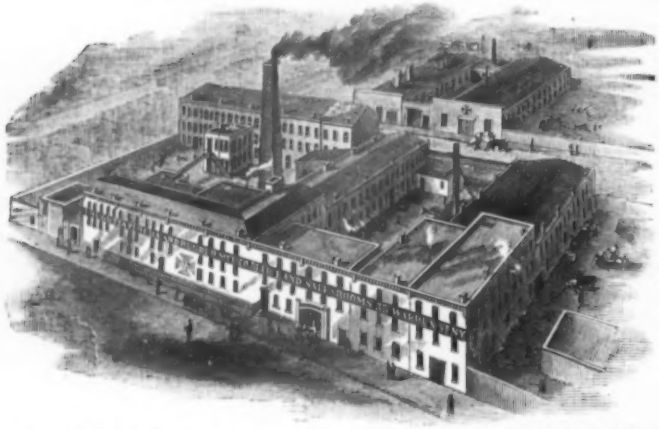

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